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The Herbal of Otto Brunfels.

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THE herbal of Otto Brunfels forms a link between ancient and modern botany, and may be regarded either as the end of the long line of classical and mediæval works on medicinal plants or as the beginning of modern taxonomy. The real renaissance of botanical science began in the sixteenth century, when the study of living plants gradually replaced the study of what had been written about them by classical authors, and the mediæval period in botany may therefore be considered as extending to the end of the fifteenth century. The text of Brunfels was virtually a compilation of the dicta of his predecessors, and in this respect his work is purely mediæval in character. The provision of life-like wood-engravings of living plants, however, makes it possible, for the first time in history, to identify a high percentage of the species concerned, so that modern systematic botany may almost be said to start with Brunfels.

1. *Previous Identifications of his Plants.*

Various authors from Caspar Bauhin (4) onwards have supplied identifications of many of the plants described or figured in Brunfels's herbal, but no complete list has ever been published, and the most comprehensive one, that of Moretti (32), contains numerous identifications that are demonstrably incorrect. The first volume of Brunfels's herbal was published in 1530 under the title 'Herbarum Vivæ Eicones,' and was followed by a second in 1531, and a third issued posthumously in 1536. All these were in Latin, and passed through several editions. A German edition appeared in 1532 under the title 'Contrafayt Kreüterbuoch,' and a second volume of it was published posthumously in 1537. These included nearly all the figures of the Latin version, and over fifty additional ones. Altogether about 260 species were figured by Brunfels.

Less than a century later the number of known plants had increased so enormously, and such an extensive synonymy had grown up, that the co-ordination of existing nomenclature became an imperative necessity. The gigantic task was undertaken by Caspar Bauhin, whose 'Pinax Theatri Botanici' (1623) contains the accepted names and synonyms of about six thousand species. About 80 per cent. of the figures in Brunfels were

correctly identified by Bauhin, whose 'Pinax' remains an indispensable key to the herbals of the sixteenth century. Most of the corresponding Linnean names may be found by reference to Richter's 'Codex,' as the names in the 'Pinax' were, with relatively few exceptions, cited by Linné in the 'Species Plantarum.'

The next important contribution to the study of Brunfels's plants was made by Kurt Sprengel, who included a short list of identifications in his 'Historia Rei Herbariæ' (1808), and a longer one, containing 131 names, in his 'Geschichte der Botanik' (1817). In 1852 Moretti (32) supplied determinations of all the plants figured in the three volumes of the Latin version. Finally, an authoritative list of 106 species figured in the first two volumes of the herbal was given in Kirschleger's 'Flore d'Alsace,' vol. ii (1857). Over twenty of the determinations given by Sprengel (39) appear to be incorrect, and about twenty-five of those of Moretti. A few of the more obvious misidentifications of Brunfels's figures may be mentioned. Caspar Bauhin treated *Chamæpitys* Brunf. (*Veronica Teucrium* L.) as a synonym of his *Chamædryas minor repens* (*Teucrium Chamædryas* L.); and cited *Buglossa sylvestris* Brunf. (*Echium vulgare* L.) under his *Buglossum sylvestre minus* (*Lycopsis arvensis* L.). *Uvularia mas* and *Uvularia fœmina* Brunf., which Bauhin had referred correctly to his *Laurus Alexandrina fructu pediculo insidente* (*Ruscus Hypoglossum* L.), were misidentified by Sprengel as *Uvularia amplexifolia* L. (*Streptopus amplexifolius* Lam. et DC.). Moretti went still further astray, identifying *Uvularia mas* as *Streptopus amplexifolius* and *Uvularia fœmina* as *Convallaria latifolia* Jacq. (*Polygonatum latifolium* Desf.).

One of the chief difficulties attending the identification of Brunfels's figures is the absence of anything approaching a botanical description, while another is the circumstance—noted already in 1542 by Fuchs (18)—that the figures do not always correspond with the accompanying text. Some striking examples are *Erodium cicutarium* L., figured as *Herba Roperti* (*Geranium Robertianum* L.), *Trifolium pratense* L., figured as *Brunella* (*Brunella vulgaris* L., *Isnardia palustris* L., which is associated with the text of Burtzelkraut (*Portulaca oleracea* L.), and *Atropa Belladonna* L., which purports to represent Encian (*Gentiana lutea* L.). How far Brunfels was responsible for the last three misidentifications is uncertain, as they appeared in posthumously issued volumes. It is inconceivable that he could have confused Cress (*Lepidium sativum* L.) with Rice (*Oryza sativa* L.), but a figure of the former is associated with text of the latter in the second part of the 'Contrafayt Kreüterbuoch.'

2. Life of Brunfels.

The key to these various inconsistencies is to be found in a consideration of the career of Brunfels, and in an intensive study of his herbal.

Sprengel (38, 39), Meyer (30), F. W. E. Roth (36), Greene (20), Arber (2), and others have dealt more or less exhaustively with the life of Brunfels, so that here only such facts as bear on his attainments as a botanist need be mentioned. As far as biographical details are concerned, Roth's paper is the most complete, and where these authors differ as to dates, etc., his account has been accepted. His botanical identifications, on the other hand, are not very helpful, examples being *Senecio vulgaris* L. identified as "*Gnaphalium arvense* Willd.," *Lepidium sativum* L. as "*Nasturtium officinale*," and *Leonurus Cardiacæ* L. as "*Lycopus europæus*."

Brunfels was born in 1489 at Mainz, where he received a good education, taking the degree of M.A. at the age of 20 or 21. Subsequently he entered the Carthusian monastery at Strasburg and remained there until 1521, when, having become a Protestant, he escaped from the monastery and fled to Ebernburg bei Kreuznach. After three years spent at various places in south-west Germany, as an evangelical pastor and theological writer, he returned to Strasburg in 1524, and established a school there, marrying in the same year. While still in the Carthusian monastery he had written on education and theology, and from 1524 onwards, without forsaking these subjects, he applied himself to the study of medicine and botany, preparing new editions of two works on medicine and surgery in 1524 and 1528 respectively, and completing his 'Catalogus illustrium medicorum' in 1529.

His first botanical publication was the 'Herbarum Vivæ Eicones,' which appeared in 1530. During the next four years, in addition to preparing the second and third volumes of his herbal, and the German edition of it, he published several works on medicine and pharmacy, including his 'Onomas-tikon medicinæ' (1534). He obtained the degree of M.D. at the University of Basel in 1532 or 1533, and, after a short period of private practice as a physician at Strasburg, was appointed in 1533 Town Physician of Bern, where he died in 1534.

3. Preparation of the Herbal.

A study of his herbal leads to the conclusion that—at all events, in the first volume—the greater part of the text was prepared first, living specimens being obtained subsequently for the purpose of illustration. Thus in the first volume of the Latin version (1530) the chapters on *Linaria* (p. 193), *Esula* (p. 194), *Malvæ* (p. 197), *Catapucia* (p. 230), *Chamæmelum* (p. 252), and *Parietaria* (p. 263) are unillustrated; and no figure of the true *Mercurialis* (p. 261) is given, though there is one of Guot Heynrich, which some of Brunfels's contemporaries considered to be a second kind of *Mercurialis*. Illustrations of the three species of *Malva* and of *Parietaria* were supplied subsequently in vol. ii (1531), while *Esula* and *Chamæmelum* were figured in the 'Contrafayt Kreüterbuoch' (1532). In the Preface to the

latter work (Cap. xxxii) he explains that some of the figures were not ready in time to be included.

In some cases Brunfels himself recognized a lack of correspondence between the classical plants and those which he figured. Thus under *Arona* [sic] * he pointed out that the species illustrated was shown to him as *Aron* by the herbalists, but that it did not agree in all respects with the description of the classical plant of that name. Similarly, after a long account of *Colubrina* (*Serpentaria*, *Viperina*, *Dracunculus*, *Dracontium*) he mentioned (p. 68) that confusion had crept in as to the identity of the classical plants, and that the herbalists and old women had shown him many different kinds of *Serpentaria*, only two of which he thought worth figuring. Brunfels refers repeatedly to the opinions of the herbalists, most of whom he classes among the "vulgus" (i, 81, 135) as opposed to the "docti" (classical scholars), while paying a tribute to their practical knowledge of plants: "qui non ex libris sapiebant, sed experientia rerum edocti erant." The only herbalist whom he cites by name is Hieronymus Tragus (Jerome Bock), whom he calls Hieronymus Herbarius. He held Tragus in deservedly high esteem, sometimes styling him "Nobilis Experimentator et Herbarius" (i, 55), "Nobilis Empiricus" (i, 110), "Nobilis Herbarius" (i, 74, 81), or "doctissimus vir" (iii, 15, sub voce *Scolopendrium*).

Brunfels appears to have accepted the names of plants generally current in the fifteenth and early sixteenth centuries ("verum plus secutus sim vulgi opinionem, doctorumque hominum," iii, 10; "vulgatam nomenclaturam Herbariorum imitatus," iii, 11), rarely—as in the case of *Narcissus* (i, 135)—venturing upon an independent identification of his own. Like other botanical writers of his times he sought information from all sources, including the old women, who possessed a knowledge of herbs ("vetulas expertissimas," iii, 13, sub voce *Eufrasia*). It was they who persuaded him to give a picture of Guot Heinrich: "Præterea et eam adpinximus quæ vulgo Guot Heinrich vocatur, vel Schwerbel. Ita enim vetulæ nos persuaserunt" (i, 68). His distinguished contemporary, Emericus Cordus, also learned much from the old peasant women whom he encountered on botanical excursions into the country ('Botanologicon,' pp. 26, 27).

4. Sources of the Text.

The text of the 'Herbarum Vivæ Eicones' has been considered by Ernst Meyer and others to be of little value, whereas E. L. Greene read into it various attempted improvements in classification and nomenclature (*vide infra*, p. 84). It consists, as Meyer says, largely of collected extracts from previous writers, among the early works frequently quoted being those of Dioscorides and Pliny, and the fifth century Latin compilation (1, 21, 24)

* The name is so spelt above the figure and in the index,

circulated under the name of Lucius Apuleius Madaurensis (Apuleius Platonicus), a Platonic philosopher of the second century. There are numerous references to the opinions of the Arab physicians, such as Serapion, Mesue, Avicenna, and Rhazes, chiefly in regard to medicinal uses. Great indebtedness is also shown to the Italian botanists of the fifteenth and early sixteenth centuries—Hermolaus Barbarus, Nicolaus Leonicens, Marcellus Virgilius, Pandolphus Collinutius, and Joannes Manardus, whose Latin translations of Dioscorides and commentaries on Dioscorides and Pliny seem to have formed the chief basis of Brunfels's work. Indeed, it seems probable that, but for the key to classical botany supplied by these Italian authors, the 'Herbarum Vivæ Eicones' would never have appeared. But the history of botany in the fifteenth century has yet to be written, and until then the precise debt of Brunfels to his Italian and other predecessors must remain a matter of conjecture.

5. *The Draughtsmen of the 'Vivæ Eicones.'*

Ernst Meyer (30), Maiwald (28), and Arber (2, 3) considered that the figures were drawn as well as engraved by Johannes Weiditz (Hans Weyditz) of Strasburg, and Christ (12) has recently concluded that Weiditz was certainly the draughtsman, if not the engraver, but the hypothesis that Brunfels himself was the draughtsman was brought forward in 1919 by A. H. Church (13) in the following words: "From internal evidence it may be sufficiently assumed that Brunfels drew the figures himself, he had little money to pay for them being done, and in the absence of any claimant he should certainly be credited with them. No one but the man who had spent hours over them could have so insisted on the value and truth of his 'Vivæ Eicones.'" This does less than justice to the discernment and character of Brunfels. To one accustomed to the crude diagrammatic representations of plants in the 'Ortus Sanitatis' and Hieronymus von Braunschweig's 'Buoch von Distillierung' the figures of the 'Vivæ Eicones' must have come as a revelation of the possibilities of botanical illustration; and Brunfels, of all men, was most scrupulous to give credit where credit was due, as is evident from a close study of his herbal: "Singulis suum honorem dedimus, vel barbarissimis etiam" (ed. 1532, i, prefatory epistle to the Senate of Strasburg).

In reply to Church, Arber (3) cited the following passage from the Introduction to the 'Contrafayt Kreüterbuoch,' Cap. xxxii: "ist derhalb, an moeglichem fleiss nichts gespart worden, wie sich auch die formen disses buochs wol lassen ansehen durch den hochberuempten meyster Hans Weyditz von Strassburg gerissen und contrafayt." This seems to indicate that Weyditz was responsible for the drawing as well as the engraving. The expression "gerissen und contrafayt" may, I think, be rendered "drawn and engraved" (pinxit et sculpsit), the word "contrafayt" apparently

referring to the exact reproduction of the drawing on the wood block. In the introductory verses of the Latin edition Weyditz (Guidictius) is described as a "pictor" (designer). That Weyditz was not the only draughtsman and engraver, however, is evident from the fact that Brunfels refers in his book to the "pictores et sculptores" (i, 181) or "deliniatores et sculptores" (i, 217). On the latter page he explains that in order to keep the draughtsmen and engravers employed he was obliged to include certain herbs of which he knew nothing but the German names, though he had originally intended to include such plants in an appendix. Under "Weyssz Fleyschbluom" (ii, 59) he accepts the name given by the draughtsman when he drew it: "Huic flori nomen inditum a grapheo accepimus cum pingeret." In the prefatory paragraph of the Introduction to the 'Contrafayt Kreüterbuoch' Brunfels mentions that he has had to give way a good deal to the masters and journey-men-engravers (den Meistern und Contrafactyereren) as it was in their power to draw what they liked or were able to execute. In the thirty-second chapter of the same Introduction he explains that the absence of any definite arrangement in the book is due to his having had to take up each plant as the designer (Maler) finished it.

All these facts taken together lead to the conclusion that the figures were executed under the supervision of Weyditz by a staff of several draughtsmen and engravers, some of whom ranked in their craft-guild as masters and others as journeymen. The idea that Brunfels was responsible for any of the drawings may be dismissed.

6. *Nomenclature.*

The late E. L. Greene, in his scholarly and philosophical 'Landmarks of Botanical History' ascribed to Brunfels the credit of having quietly inaugurated the reform of the nomenclature of genera by the exclusion of certain generic names made up of two distinct words, but I have not succeeded in finding any definite evidence in support of this view. As recently pointed out by M. L. Green (19), "he seems to have thought one name as good as another, and to have used them more or less indifferently" with the obvious exception that a classical name had precedence over a vernacular one. He headed his chapter on Fumitory "*De Capno*," but used the name *Fumus terræ* above the figure; similarly, the chapter on the different kinds of Buttercup is entitled "*De Pede Corvino*," but in his own remarks ("Judicium nostrum") he adopted the name *Coronopus*, and the third figure bears the name *Crus Galli*; the wood Sanicle is indifferently styled *Sanicula* and *Diapensia*; and *Delphinium Consolida* is called *Consolida regalis* in one place (i, 84) and *Calcar equitis* in another (iii, 8).

7. *Taxonomy.*

Brunfels does not appear to have had any clear conceptions as to plant-classification; when he used the word "species" he did so in the general

sense of "kind." One Brunfelsian "species" might differ very greatly or very slightly from another—thus his *Scrophularia maior*, *S. media*, and *S. minor* are now assigned to three different families, his *Cynoglossa vera* and *C. minor* to different genera, and his *Pentaphyllon maius* and *P. minus* to different species of the same genus. Others were mere forms of the same species. One of his species of *Perfoliata* is *Bupleurum rotundifolium* L. (*Umbelliferae*), whereas the two others are respectively normal and abnormal states of *Listera ovata* R. Br. (*Orchidaceae*).

Nine pages were devoted to the taxonomy of the 'Herbarum Vivæ Eicones' by E. L. Greene (20), who claimed that Brunfels introduced various improvements in classification—for example, in recognizing the genus *Ficaria* by adopting that name in place of *Scrophularia minor*. But in the text of the 'Vivæ Eicones' three species of *Scrophularia* are set out with their synonymy, and *Ficaria* is given as a synonym of *Scrophularia minor*. In order to support his contention, Greene here appears to assume that the name accompanying the *figure* was the one adopted by Brunfels. In the case of *Capnos* (vide supra, p. 84), however, where he is endeavouring to prove that Brunfels rejected certain binary generic names, he accepts the name used in the *text*, as representing the choice of Brunfels. As the text appears to have been prepared first, the latter view is the more probable, though, as suggested above, Brunfels seems to have regarded the choice of names almost as a matter of indifference.

Greene suggests that the caption "*De Galiopsi simili Urticis herba, Dioscorides*" indicates that Brunfels really regarded *Galiopsis* as generically distinct from *Urtica*, and translates it as follows:—"Concerning *Galiopsis* of Dioscorides, an herb resembling the nettles." The real meaning, however, seems to be "Dioscorides on *Galiopsis*, an herb resembling the nettles." It was Dioscorides who wrote that the whole plant of *Galiopsis* with its stem and leaves *resembled* a nettle. Brunfels actually followed Pliny and Hermolaus Barbarus in including it under the nettle genus, *Urtica*. The picture of sixteenth century botany given in Greene's 'Landmarks' appears to be wonderfully true in its general outlines, but he painted with a broad brush and the details do not always bear inspection.

The botanical classification of the early sixteenth century was sometimes based on obvious vegetative characters or general facies, sometimes on medicinal properties, and only seldom on the inflorescence or flowers. The genus *Plantago* comprised herbs with elliptic or lanceolate 7-nerved leaves, as is indicated by its synonym *Septinervia*: hence it naturally included the Water Plantain, *Alisma Plantago-aquatica* L., in addition to the true Plantains. Plants that in some way resembled a serpent were assigned to *Colubrina*, the twisted rhizome of *Polygonum Bistorta* L. and the snake-like markings on the stem of *Dracunculus vulgaris* Schott being sufficient warrant for their inclusion in the same genus. *Consolida*, with its variant *Solidago*, denoted herbs that promoted the healing of flesh and especially of wounds,

and covered a wide assortment of unrelated genera. Orchids with two or more tubers were known as *Satyrion*, an example of phallic symbolism. The leaves of *Verbena* had been described by Dioscorides and Pliny as cut like those of an oak—that is, pinnatifid,—and this explains the association by Brunfels of *Verbena officinalis* L., *Senecio vulgaris* L., and *Sisymbrium officinale* L. under the same generic name. *Parthenium* comprised six species of *Compositæ-Anthemideæ*, belonging to the genera *Chrysanthemum*, *Tanacetum*, *Matricaria*, *Anthemis*, and *Artemisia*, four of them being highly aromatic. With them was associated the Marigold, *Calendula officinalis* L. (tribe *Calenduleæ*), also a strong-smelling plant and two species belonging to other families—namely, Dog's Mercury, *Mercurialis annua* L., and Pellitory, *Parietaria officinalis* L.

8. Superstition and Fable.

Traces of mediæval superstition are discernible in the volumes of Brunfels, who considered the blood-red blotch on the leaves of his *Pulicaria* (*Polygonum* spp.) the greatest miracle of plant-life:—"This herb is also of two kinds, large and small, but both have a peach-like leaf which is blotched in the middle, just as if a drop of blood had dripped on to it, a mighty and marvellous sign which astonishes me more than any other miracle of the herbs" ('*Contrafayt Kreüterbuoch*,' p. clxviii). The influence of the doctrine of signatures can be detected in such "genera" as *Colubrina*, *Satyrion*, and *Hepatica*. His account of *Narcissus* (*Hermodactylus*) is a mixture of fact and fable:—"There are, they say, two kinds of the flower, namely, male and female, purple, yellow and white; also it flowers twice in the year, once in March and then in September; it sheds its seeds at Whitsuntide, and in the beginning of the year forsooth it springs up with white and yellow flowers, and in the winter with purple ones. They say that they have caught it in a miracle of nature; for if anyone tried to dig it up in March he could easily uproot it with a single finger, but from that time onwards it settles down daily deeper and deeper into the ground until September, when it can scarcely be dug up without a great deal of trouble. In the meantime, it lurks in the earth at the depth of one cubit, but in the winter it soon moves upwards again, so that it comes out even above the ground with its first bloom at the breath of spring. We also have found this, and have observed that the root is at first soft and bulbous and the leaves are like those of *Porrum* [Leek] and *Satyrion* [*Orchis* and *Ophrys*], but soon the root hardens, and the leaves become more fleshy, coming from the root without a stalk. From September onwards it is quite hard and very deeply buried, but with a rather delicate and lily-like flower, opening about a hand's-breadth above the ground, after the second mowing of the meadow" (i. 135).

The yellow and white spring-flowering kinds of "*Narcissus*" are the Daffodil (*Narcissus Pseudo-Narcissus* L.) and the Snowflake (*Leucojum*

vernum L.) respectively, as is obvious from the figures. The purple autumn-flowering kind (known to the Arabs and Neotherici as *Hermodactylus*), with a liliaceous perianth and firm deeply-buried "root," is evidently the Autumn Crocus (*Colchicum autumnale* L.), with its deeply-seated corm. Later on Brunfels seems to have discovered that the purple-flowered kind was quite distinct from the yellow and white kinds (Contr. Kreüt. p. liii; iii. 10, 11, *Narcissus*, *Hermodactyli*); and it was figured under the names *Premulæ veris bulbis* and *Crocus* (Saffron) in the posthumous third volume of the Latin version and the second volume of the German one. In both volumes it was confused with the Saffron Crocus (*Crocus sativus* L.). The origin of the fable may have been this: that the same vernacular name, "Zeitloesslin," was given in Alsace to the Daffodil, the Snowflake, and the Autumn Crocus. But the fable evidently arose several centuries earlier, since Albertus Magnus (31) described *Hermodactilus* as having sometimes white and sometimes yellow flowers.

9. The Terms "Male" and "Female."

Brunfels's ideas of sex in plants were based on several considerations. His use of the terms "male" and "female" sometimes indicated differences in flower-colour between two plants which were otherwise more or less similar, the deeper colour in the following order—red, blue (purple, violet), yellow, white—being "male" and the paler colour "female." This is illustrated by the following examples:—Male, red; female, blue: *Anagallis arvensis* L., *A. fœmina* Mill., the allocation of the sexes being taken in this instance from Dioscorides.—Male, violet; female, yellow: *Verbena officinalis* L., *Senecio vulgaris* L., and *Sisymbrium officinale* L.—Male, purple; female, yellow or white: *Colchicum autumnale* L., *Narcissus Pseudo-Narcissus* L., and *Leucojum vernum* L.—Male, purple or pinkish; female, white: *Lamium maculatum* L., *L. album* L.; *Symphytum officinale* L. var. *purpureum* Pers., do. var. *ochroleucum* DC.; *Leonurus Cardiacæ* L., *Marrubium vulgare* L.—Male, yellow; female, white: *Nuphar luteum* Sm., *Nymphæa alba* L.; *Sedum acre* L., *S. album* L.

In other cases the normal or more complete plant was considered as male, the abnormal or imperfect one as female, as in *Polygonum Bistorta* L., *Listera ovata* L., and *Ruscus Hypoglossum* L. Normal *Listera ovata* was originally styled *Perfoliata mascula*, but when it was discovered to be a spurious kind it was designated *Perfoliata fœmina* in contrast to the genuine kind, *Perfoliata vera* (*Bupleurum rotundifolium* L.).

It is interesting to note that in the sixteenth century the German word "braun" was applied to what botanists now call "purple" (purpureus). Thus the purple Comfrey, the purple Dead-nettle, and the purplish-pink *Melampyrum arvense* L. were all "braun" to Brunfels. Similarly, Fuchs ('Historia,' 893) gave "Brauner Fingerhut" as the German name of the Foxglove, and translated it into Latin as *Digitalis purpurea*.

10. *Garden Flowers.*

Brunfels mentions various plants as being grown in gardens for their decorative flowers or sweet scent. Yellow Bachelor's Buttons (*Ranunculus acris* L., flore pleno) was used for bridal wreaths:—"est domestica et hortulana, sativa, foliatis, luteis, et repletis floribus, qua ad coronas utuntur nymphæ." Monkshood, 'Isenhuetlin' (*Aconitum Napellus* L., sensu lato), which he regarded as another kind of Crowfoot (*Pes Corvi*), was a favourite flower of the German matrons. Wallflower (*Cheiranthus Cheiri* L.) was considered to be a yellow kind of "Violet" (Geel Violaten, Gelben Violaten). The Stock (*Matthiola incana* R. Br.) and the Pinks (*Dianthus* spp.) were associated on account of the clove-like fragrance of their flowers; some authors called them "Garyophyllus" (Clove), but Brunfels was inclined to refer them to "Cheiri" (*Cheiranthus*). The Sweet Violet (*Viola odorata* L.) was valued both for its perfume and colour, and the Wild Pansy (*Viola tricolor* L.) was grown for the sake of its flowers, which were regarded as symbolic of the Holy Trinity and were used for wreaths. Garlands were woven also from the Rose Campion (*Lychnis Coronaria* L.), two kinds of which were then in cultivation, one with white, the other with rose-purple flowers. Dittany (*Dictamnus albus* L.) was doubtless prized for its aroma as well as for its handsome inflorescence. Marigold (*Calendula officinalis* L.) was cultivated for its ornamental flowers, of which garlands were made. Rosemary (*Rosmarinus officinalis* L.) was also used by the garland-makers ("Rosmarinum, quo Coronarii utuntur"). Among bulbous plants were the Madonna Lily (*Lilium candidum* L.), Orange Lily (*L. croceum* Chaix), and Martagon Lily (*L. Martagon* L.). *Iris germanica* L. was grown as an ornamental plant as well as for the sake of its fragrant rhizome, which is one of the sources of orris-root. Then, as now, it was common on old walls in Alsace. It is noteworthy that eight of the above-mentioned species were also coronary plants of ancient Greece or Rome.

11. *The Scientific Value of the Herbal.*

The herbal possesses a threefold importance: (1) it affords clues to the identity of many of the plants known in mediæval times; (2) it contains numerous previously unknown species; (3) it includes many figures which may be regarded as the historic types of Linnean species.

(1) As has been shown (p. 82), Brunfels in most cases accepted—or, at all events, cited—the traditional names used by the herbalists of his day, which appear to have been handed down for several centuries in some cases. For instance, the excellent description of *Borago* supplied by Albertus Magnus (circa 1250) in his 'De Vegetabilibus Libri VII' proves that it was identical with the species figured by Brunfels in 1530 under the same name, and now known as *Borago officinalis* L. Hence the names employed

by mediæval botanists may be associated, in the absence of evidence to the contrary, with the pictures in Brunfels's Herbal. A single case may be mentioned as an illustration. Albertus Magnus described *Verbena* in the following words:—"Verbena est herba parvis foliis, in siccis crescens, duris stipitibus et siccis. Et est duorum modorum: una enim habet florem parvulum croceum, et altera habet parvulum eiusdem figuræ azurinum." His two kinds of *Verbena* were identified by Meyer and Jessen (31, p. 579) with *Anagallis fœmina* Mill. ("*A. arvensis* Linn.") and *A. arvensis* L. ("*A. phœnicea* Lam.") respectively. But the stems of the Blue and Scarlet Pimpernel are not particularly hard, nor are their leaves small in proportion to the size of the plant; and it is difficult to believe that Albertus Magnus could have called the flower of the Blue Pimpernel "yellow" ("croceus"). Two of the three species figured by Brunfels as *Verbena* were *Verbena officinalis* L. and *Sisymbrium officinale* Scop., and these seem to fit the description given by Albertus Magnus. The latter described the flower of the Sweet Violet and that of Chicory as "azurinus," so that he evidently used this term in the sense of violet as well as for blue. And when it is remembered that *Verbena officinalis* was known in the 12th century as *Verbena* ('Apuleius Barbarus,' 21, t. lxix) there need be no hesitation in accepting it as the "azure-flowered" kind of *Verbena* mentioned by Albertus Magnus. *Sisymbrium officinale* bears such a strong general resemblance to *Verbena officinalis* both in vegetative characters and in inflorescence that it may well be the yellow-flowered kind. Magnifying-glasses were then unknown, and, as seen by the naked eye, the flower of Vervain might be regarded as similar in shape to that of Hedge-Mustard.

(2) Among the species illustrated in Brunfels's Herbal there are forty-seven which appear to be "new." In the systematic conspectus (p. 113) these are distinguished by asterisks.

(3) Many of the species in Linné's 'Species Plantarum' were what are known as "book-species"—that is, they were based primarily (if not entirely) on descriptions and figures supplied by previous authors. For European plants the earliest work generally cited by Linné was Caspar Bauhin's 'Pinax' (1623); and the earliest work generally cited by C. Bauhin was Brunfels's Herbal. Hence a picture in the latter book frequently constitutes the primary historic basis of a Linnean species.

Linné included Brunfels among the "Auctores usitatiores" mentioned at the beginning of the 'Species Plantarum,' but only the first volume of the herbal was represented in his library, and there appears to be no evidence that he used the second and third volumes of the Latin version, or the 'Contrafayt Kreüterbuoch.' Hence it is only in the first volume that the figures can be regarded as typifying Linnean species. Deducting those figures not cited or erroneously cited by Bauhin, and others of which the identification might be disputed, there remain over sixty figures which have

a *prima facie* claim to be regarded as the types of Linnean species. In the case of the figures of entirely new plants such as Kuchenschell (*Anemone Pulsatilla*) and Gauchbluom (*Cardamine pratensis*) this claim will perhaps not be disputed, and the same applies to those unknown before the mediæval period, such as *Capillus Veneris* Brunf. (*Asplenium Ruta-muraria*) and *Consolida regalis* Brunf. (*Delphinium Consolida*). Those known already in ancient Greece or Rome under their present generic names come in a slightly different category, as it might be argued that the classical description was the historic basis on which the modern name rested, and that they have been known continuously under the same name from classical times onwards. *Verbena mas* Brunf. (*Verbena officinalis*) is a case in point. According to Dyer (17, p. 83) "there is a continuous tradition from its ceremonial use in classical times to its superstitious employment amongst Teutonic races to-day." In order to establish the actual types of the Linnean species concerned, an independent investigation is required in each case. Where there is evidence that Linné's description of a species was based on the specimen in his Herbarium, that should, of course, be regarded as the type.

12. *Identifications of the Figures.*

Owing to the absence of original descriptions, the illustrations given in the herbal afford the only means of identifying with any degree of certainty the plants actually known to Brunfels. The botanical identity of some of the figures is so obvious that no confirmation is required, but in most cases the determinations have been made or checked by means of comparison with the illustrations in Reichenbach's 'Icones Floræ Germanicæ' and 'Plantæ Criticæ,' Sowerby's 'English Botany,' and other works, and the large collections of plant-drawings at the Kew Herbarium and the Natural History Museum. Comparison has also been made in certain cases with living material, when available, and with herbarium specimens. Useful clues to the identity of some of the species have been obtained from Pritzel and Jessen's dictionary of German plant-names, in which many of the names employed by Brunfels are cited.

Perhaps the most interesting new identification is that of the figure named "*Portulaca*," which is evidently *Isnardia palustris* L. (*Ludwigia palustris* Elliott). The earliest reference to this species previously noted seems to be in Morison's 'Præludia' (1669), as *Glaux major, palustris, flore herbaceo*, while the earliest record for Alsace given by Kirschleger (25) was from Lindern's 'Tournefortius Alsaticus' (1728). Brunfels's figure of *I. palustris* was published in 1536.

In the following enumeration a special running number has been assigned to each different figure. This is succeeded by the Latin and German names used by Brunfels, and references to the places of publication. Then follow

the names used by Caspar Bauhin and Linné, the now accepted name being added where it is different from the Linnean. Notes regarding the identifications are appended where required. The following abbreviations have been adopted :—

C.B.P., Caspar Bauhin, Pinax ; C.K., Contrafayt Kreüterbuoch ; C.K. ii, Contrafayt Kreüterbuoch, Ander Teyl ; L. Sp., Linn. Sp. Pl. ed. 1 ; Latin names not actually occurring in Brunfels, but attributed to him by C. Bauhin, are followed by [C.B.P.]. Volume and page numbers without preceding letters indicate the Latin editions.

In order to facilitate consultation, the figures are arranged in the order in which they appeared in the Latin editions, and these are uniformly cited before the German edition ('Contrafayt Kreüterbuoch'), although in certain cases (*e.g.*, No 39) the figures in the latter were published first. The pages of vol. i (Latin ed.) are those of the editions of 1530 and 1532, unless otherwise stated: a reference to the 1539 edition is given where a figure occurs only in that edition, or on a different page. The pages of vol. ii (Latin ed.) are those of the edition of 1536 ; where those of the 1531 edition differ, they have been added in parentheses.

1. *Plantago maior*, Breyter Wegerich (Wegrich, Wegreich), i, 23 ; ed. 1539, 22 ; C.K. p. liv. *Plantago latifolia incana* C.B.P. 189. *Plantago media* L. Sp. 113.

2. *Plantago minor*, Spitzer Wegerich (Wegrich, Wegreich), i, 24 ; ed. 1539, 23 ; C.K. p. lv. *Plantago angustifolia major* C.B.P. 189. *Plantago lanceolata* L. Sp. 113.—Moretti determined the figure as *Plantago media* L., var.

3. *Plantago aquatica*, Froeschloeffelkraut, Wasszer Wegerich, ed. 1539, i, 24 ; C.K. p. lvi. *Plantago aquatica latifolia* C.B.P. 190. *Alisma Plantago-aquatica* L. Sp. 342.

4. *Plantago rubea*, Rot Wegerich (Wegrich, Wegreich), i, 25 ; C.K. p. lvii. *Plantago latifolia sinuata* C.B.P. 189. *Plantago major* L. Sp. 112.—Identified by Sprengel and Moretti with *Plantago crassa* Willd. (*P. crispa* Jacq.), which Decaisne (DC. Prodr. xiii, sect. 1, 695) regarded as probably an abnormal state of *P. major*.

5. *Helleborus niger*, Christwurtz, Nyeszwurtz, i, 30 ; iii, 3 (text) ; C.K. p. lxii. *Helleborus niger hortensis flore viridi* C.B.P. 185. *Helleborus viridis* L. Sp. 558.

6. *Nenufar mas*, Geel Seehbluom, i, 36 ; C.K. p. i. *Nymphaea lutea major* C.B.P. 193. *Nuphar luteum* (L. Sp. 510) Sm.

7. *Nenufar foemina*, Weissz Seehbluom, i, 37 ; C.K. p. ii. *Nymphaea alba major* C.B.P. 193. *Nymphaea alba* L. Sp. 510.

8. *Ungula caballina*, Rosszhuob, Branntlattich, i, 41; iii. 7 (text); C.K. p. vi. *Tussilago vulgaris* C.B.P. 197. *Tussilago Farfara* L. Sp. 865.

9. *Aristolochia rotunda*, Ronde Holwurtz, Holwurtz das weiblin, i, 47 (in ed. 1539, "Holwurtz das maennlin"); C.K. p. cxlvii. *Fumaria bulbosa radice cava major* C.B.P. 143. *Fumaria bulbosa* var. *cava* L. Sp. 699. *Corydalis cava* (L.) Schweigger et Koerte.—Bubani (Fl. Pyren. iii, 272 : 1901), referred this figure of Brunfels doubtfully to *C. solida* Sw., but the larger size of the plant, the absence of cataphyllary leaves below the foliage-leaves, the undivided bracts, and the fact that the roots are scattered over the whole surface of the corm, instead of being confined to the base, seem to afford conclusive evidence against that identification and in favour of *C. cava*. As in other cases, two states of the same species were figured by Brunfels under different names. Bubani himself suggested that this might be the case: "Cum dubio retuli Brunfelsii figuram, nec me latet, novissime etiam, Moretti, cum altero ejusdem loco, p. 48, ambo ad *C. cavam* attulisse."

10. *Aristolochia longa* Lang Holwurtz, Holwurtz das maennlin, i, 48 (in ed. 1539 omissa); C.K. p. cxlvi. *Corydalis cava* (L.) Schweigger et Koerte.

11. *Aristolochia rotunda*, *Aristolochia vera*, Osterlucey, Holwurtz das weiblin, ed. 1539, i, 48; iii, 10, sub voce *Satyria* (text); C.K. ii, p. cxxiii. *Aristolochia Clematitis recta* C.B.P. 307. *Aristolochia Clematitis* L. Sp. 962.

12. *Arona*, Aron, Pfaffen pint, i, 56; iii, 3 (text); C.K. pp. lxxvii, lxxiv. *Arum vulgare non maculatum* C.B.P. 195. *Arum maculatum* L. Sp. 966.

13. *Colubrina fœmina*, Naterwurtz weiblin, i, 61; C.K. p. lxxi. *Bistorta major radice minus intorta* C.B.P. 192. *Polygonum Bistorta* L. Sp. 360, abnormal condition with branched stem. A similar abnormality is recorded by Penzig, Teratologie, ed 2, iii, 180 (1922).—Moretti identified the figure as *Rumex aquaticus* L.

14. *Colubrina mas*, Naterwurtz (Noterwurtz, Notterwurtz) maennlin, i, 62; C.K. p. lxx. *Bistorta major radice magis intorta* C.B.P. 192. *Polygonum Bistorta* L. Sp. 360.

15. *Mercurialis altera*, Guot Heinrich (Heynrich), Schwerbel, i, 63, 260; C.K. p. lxxv. *Lapathum unctuosum* C.B.P. 115. *Chenopodium Bonus-Henricus* L. Sp. 218.

16. *Dracuntium* (*Dracontium*) *maius*, Schlangenkraut, ed. 1539, i, 63; iii, 4 (text); iii, 131; C.K. ii, p. cxxxiv. *Dracunculus polyphyllus* C.B.P. 195. *Arum Dracunculus* L. Sp. 964. *Dracunculus vulgaris* Schott.

17. *Asarum*, Haselwurtz, i, 71; iii, 4 (text); C.K. p. ix. *Asarum* C.B.P. 197. *Asarum europæum* L. Sp. 442.

18. *Consolida maior mas*, Walwurtz maennlin, i, 75 ; iii, 6 (text) ; C.K. p. xii. *Symphytum Consolida major* C.B.P. 259. *Symphytum officinale* L. Sp. 136, var. *purpureum* Pers. Syn. i. 161.

19. *Consolida maior femina*, Walwurtz weiblin, i, 76 ; iii, 6 (text) ; C.K. p. xiii. *Symphytum Consolida major* C.B.P. 259. *Symphytum officinale* L. Sp. 136, var. *ochroleucum* DC. Prodr. x, 37.—Brunfels (C.K. p. xiv) mentions that there are two kinds of Grosz Walwurtz (*Consolida maior*), a “male” kind with brown (*i. e.*, purple) flowers, and a “female” with white flowers. C. Bauhin also remarks that the purple or purplish-blue flowered form was called the male kind, and the white or yellowish form the female kind.—Moretti identified Walwurtz weiblin with *Symphytum tuberosum* L.

20. *Sanicula Sanicula maior* (vide ii, 84), *Diapensia*, Sanickel, i, 80 ; iii, 8 (text) ; C.K. p. xvi. *Sanicula officinarum* C.B.P. 319. *Sanicula europæa* L. Sp. 235.

21. *Consolida regalis*, Calcar equitis, Rittersporen, i, 83 ; iii, 8 (text) ; C.K. p. xviii. *Consolida regalis arvensis* C.B.P. 142. *Delphinium Consolida* L. Sp. 530.

22. *Tormentilla*, Tormentill, i, 85 ; iii, 7 (text) ; C.K. p. xx. *Tormentilla Sylvestris* C.B.P. 326. *Potentilla erecta* (L. Sp. 500) Hampe.

23. *Betonica*, Betonien (Brun Betonien, Braun Betonien), i, 88 ; iii, 8 (text) ; C.K. p. xxiii. *Betonica purpurea* C.B.P. 235. *Stachys officinalis* (L. Sp. 573) Trevisan.

24. *Consolida media*, Gulden Guntzel, i, 95 ; C.K. p. cxc. *Ajuga genevensis* L., teste Kirschl. Fl. ii, p. xv.—Cited by Caspar Bauhin (Pinax, 260) under his *Consolida media pratensis cærulea*, which is a synonym of *Ajuga reptans* L. Sp. 561. Kirschleger at first (Fl. i, 623) referred this figure to *A. reptans*, but later (Fl. ii, p. xv) identified it without hesitation as *A. genevensis*, doubtless on account of the absence of stolons, and the hairy stem and leaves.

25. *Herba paralysis*, *Flores clavium*, *Clavis S. Petri*, Geol Himmelschlüsszel (Hymmelschlüsszel), Weissz Betonien, i, 96 ; iii, 8 (text) ; C.K. p. xxvii. *Verbascum pratense odoratum* C.B.P. 241. *Primula veris* L. Sp. 142.

26. *Herba paralysis alba* [C.B.P.], Weissz Hymmelschlüssel, i, 97 ; C.K. p. xxviii. *Verbascum pratense vel sylvaticum inodorum* C.B.P. 241. *Primula elatior* (L. Sp. 143) Schreb.

27. *Fumus terræ*, *Fumaria herba*, *Capnos*, *Capnitis*, Erdtrauch, Erdrouch, Daubenkropff, i, 99 ; iii, 9 (text) ; C.K. p. xxx. *Fumaria officinarum et Dioscoridis* C.B.P. 143. *Fumaria officinalis* L. Sp. 700.

28. *Satyrion primum* [C.B.P.], Stendelwurtz, i, 103. *Orchis purpurea* Huds. (*O. fusca* Jacq.) teste Kirschl. Fl. ii, p. xv.—Cited by C. Bauhin (Pinax, 80) under his *Cynosorchis latifolia hiante cucullo major*, which is one of the synonyms cited under *Orchis militaris* L. Sp. 941. The figure was identified as *O. militaris* by Sprengel and Moretti.

29. *Satyrion mas*, Knabenkraut (Knabenkraut maennlin), i, 104 ; C.K. p. xxxv. *Orchis militaris* L. (*O. cinerea* Schrank), teste Kirschl. Fl. ii, pp. xv, 128.—Identified as *Orchis simia* Lam. by Moretti. Sprengel listed it as *O. mascula* L., but the narrow lateral lobes of the labellum and the short spur are quite inconsistent with that species.

30. *Cynosorchis*, Ragwurtz, i, 104 ; C.K. p. xxxviii, fig. sinistra. *Orchis morio* L. Sp. 90, teste Kirschl. Fl. ii, p. xv, 130.—Cited by C. Bauhin (Pinax, 81) under his *Orchis morio mas foliis maculatis*, which is a synonym of *O. mascula* L.

31. *Satyrion quartum* [C.B.P.], Knabenkraut, i, 105 ; C.K. p. xxxvii. *Ophrys fuciflora* Reichb. (*O. Arachnites* Reichard).—Identified as *Ophrys myodes* Jacq. (*O. muscifera* Huds.) by Sprengel, as *O. apifera* Huds. by Moretti, and as *O. aranifera* Huds. by Kirschleger, Fl. ii, p. xv. I am indebted to Mr. V. S. Summerhayes for the following note : “ Brunfels’s drawing agrees with *Ophrys fuciflora* Reichb. (*O. Arachnites* Reichard) in the small petals, in the apparently forward projection of the appendage of the lip, and partly in the markings of the lip. It differs chiefly in the absence of any isolated spot on the lower part of the lip ; this spot is, however, not always present in *O. fuciflora*. *O. aranifera* Huds. has larger petals and no definite appendage to the lip.”

32. *Satyrion odoriferum*, Wolschmackend Knabenkraut, i, 105 ; C.K. p. xxxviii, fig. dextra. *Triorchis alba odorata minor* C.B.P. 84. *Spiranthes spiralis* (L. Sp. 945) C. Koch.

33. *Satyrion fœmina*, Knabenkraut weiblin, i, 106 ; C.K. p. xxxvi. *Orchis palmata angustifolia minor* C.B.P. 85. *Gymnadenia conopsea* (L. Sp. 942) R. Br.

34. *Buglossa sylvestris*, Wild Ochsenzung, i, 111 ; C.K. p. xli. *Echium vulgare* L. Sp. 139.—C. Bauhin referred this figure erroneously to his *Buglossum sylvestre minus*, which is *Lycopsis arvensis* L.

35. *Buglossa*, Ochsenzung, i, 112 ; C.K. p. xl. *Buglossum Angustifolium majus* C.B.P. 256. *Anchusa officinalis* L. Sp. 133.

36. *Borago*, Burretsch, i, 113 ; C.K. p. xlii. *Buglossum latifolium*, *Borrango* C.B.P. 256. *Borago officinalis* L. Sp. 137.

37. *Verbena mascula*, Ysenkraut maennlin, i, 119 ; C.K. p. xlv. *Verbena communis cœruleo flore* C.B.P. 269. *Verbena officinalis* L. Sp. 20.

38. *Verbena fœmina*, Yszenkraut weiblin, Gryndtkraut, i, 120. *Senecio minor vulgaris* C.B.P. 131. *Senecio vulgaris* L. Sp. 867.

39. *Verbena fœmina*, Yszenkraut weiblin, ed. 1539, i, 120; C.K. p. xlvi. *Erysimum vulgare* C.B.P. 100. *Sisymbrium officinale* (L. Sp. 660) Scop.

40. *Chamædrys*, *Gamandraea*, Gamenderlin, i, 125; iii, 10 (text); C.K. p. xlix. *Chamædrys spuria minor rotundifolia* C.B.P. 249. *Veronica Chamædrys* L. Sp. 13.

41. *Narcissus luteus*, Geel Hornungsbluom, i, 129, fig. sinistra; iii, 10 (text); C.K. p. lii, fig. dextra. *Narcissus sylvestris pallidus calice luteo* C.B.P. 52. *Narcissus Pseudo-Narcissus* L. Sp. 289.

42. *Narcissus albus*, Weissz Hornungsbluom, i, 129, fig. dextra; C.K. p. lii, fig. sinistra. *Leucoium bulbosum vulgare* C.B.P. 55. *Leucojum vernal* L. Sp. 289.

43. *Leucoium*, Cheiri, Geel Violaten, i, 136; iii, 5 (text); C.K. p. xcvi. *Leucoium luteum vulgare* C.B.P. 202. *Cheiranthus Cheiri* L. Sp. 661.

44. *Viola sativa* [C.B.P.], Zamme Violaten, i, 137, fig. super.; C.K. p. xciv. *Viola Martia purpurea flore simplici odore* C.B.P. 199. *Viola odorata* L. Sp. 934.

45. *Viola alba* [C.B.P.], Weissz Violaten, i, 137, fig. infer. sinistra; C.K. p. xciv, fig. sinistra. *Viola Martia alba* C.B.P. 199. *Viola odorata* var. β L. Sp. 934.—Identified as *Viola palustris* L. by Sprengel. Moretti identified this and the following species as *V. canina* L. and *V. flavicornis* Sm. respectively.

46. *Viola sylvestris* [C.B.P.], Wilde Violaten, i, 137, fig. infer. dextra; C.K. p. xciv, fig. dextra. *Viola hirta* L. Sp. 934, *fide* Linn. *ipso*.—Accepted as *V. hirta* by Kirschleger.

47. *Pes corvi primus*, Wasser Hanenfuesz, i, 143; C.K. p. cxxvi. *Ranunculus nemorosus* DC., *teste* Kirschl. Fl. ii, p. xv.

48. *Pes corvi flore pleno* [C.B.P.], Gefülter Hanenfuesz, i, 144; C.K. p. cxxvii. *Ranunculus acris* L. Sp. 554, *flore pleno*.

49. *Crus galli*, Kleiner Hanfuosz (Hanenfuoosz), i, 145; C.K. p. cxxviii, fig. infer. *Ranunculus pratensis radice verticilli modo rotunda* C.B.P. 179. *Ranunculus bulbosus* L. Sp. 554.

50. *Urtica major* [C.B.P.], Heyter Nesszeln (Nesszelen), i, 151; C.K. p. cxxii. *Urtica urens maxima* C.B.P. 232. *Urtica dioica* L. Sp. 984.

51. *Urtica labeo fœmina* [C.B.P.], Taub Nesszelen weissz, Daub Nesszel weiblin, i, 152; C.K. p. cxxi. *Lamium purpureum vel album non foetens folio oblongo* C.B.P. 231. *Lamium album* L. Sp. 579.—Sprengel and Moretti

transposed the identifications of this and the following species, giving *Lamium lævigatum* L. as the equivalent of "*Urtica iners femina*," and *L. album* L. for "*Urtica iners mas*."

52. *Urtica labeo mas* [C.B.P.], Daub Nessel maennlin, i, 153; C.K. p. cxx. *Lamium album* var. β L. Sp. 579. *Lamium maculatum* L. Sp. ed. 2, 809.—C. Bauhin cited *Urtica labeo mas* Brunf. under *Lamium purpureum fœtidum, folio subrotundo, sive Galeopsis Dioscoridis* (Pinax, 230), which is cited as a synonym under *Lamium purpureum* L. Sp. 579.

53. *Urtica minor* [C.B.P.], Brenn Nessel, i, 154; C.K. p. cxxiii. *Urtica urens minor* C.B.P. 232. *Urtica urens* L. Sp. 984.

54. *Marrubium mas* [C.B.P.], Andorn maennlin, i, 158; C.K. p. lxxxii. *Marrubium Cardiacæ dictum* C.B.P. 230. *Leonurus Cardiacæ* L. Sp. 584.

55. *Marrubium fœmina* [C.B.P.], Andorn weiblin, i, 159; iii, 12 (text); C.K. p. lxxxiii. *Marrubium album vulgare* C.B.P. 230. *Marrubium vulgare* L. Sp. 583.

56. *Hedera terrestris*, Gundelreb, i, 167; iii, 13 (text); C.K. p. lx. *Hedera terrestris vulgaris* C.B.P. 306. *Glechoma hederacea* L. Sp. 578.

57. *Eufragia*, Edler Augentrost, i, 169; iii, 13 (text); C.K. p. xxxiii. *Veronica pratensis serpyllifolia* C.B.P. 247. *Veronica serpyllifolia* L. Sp. 12.

58. *Eufragia alba* [C.B.P.], Weisszer Augentrost, C.K. p. xxxiv. *Euphrasia officinarum* C.B.P. 233. *Euphrasia officinalis* L. Sp. 604.

59. *Linum*, Linsomen, Flachs, i, 170; C.K. p. lxxx. *Linum sativum* C.B.P. 214. *Linum usitatissimum* var. β L. Sp. 277.

60. *Cynoglossa vera*, *Cynoglossa major* [C.B.P.], Grosse Hundtszung, i, 175; iii, 13 (text); C.K. p. clxix. *Cynoglossum majus vulgare* C.B.P. 257. *Cynoglossum officinale* L. Sp. 134.—Identified by Moretti with *Cynoglossum viciatum* Ait., which does not occur in Alsace. Kirschleger considered it a good figure of *C. officinale*.

61. *Cynoglossa minor*, Klein Hundtszung, i, 176; iii, 13 (text); C.K. p. clxviii. *Echium Scorpioides palustre* C.B.P. 254. *Myosotis palustris* (L. Sp. 131) Lam.

62. *Vinca pervinca*, Yngryen (Yngruen), i, 178; iii, 13 (text); C.K. p. c. *Clematis daphnoides minor* C.B.P. 301. *Vinca minor* L. Sp. 209.

63. *Perfoliata mascula*, Durchwachs maennlin, i, 182; ed. 1539, i, 183 (Durchwachs weiblin); C.K. p. ccv (Wylder Durchwachs maennlin). *Ophris bifolia* C.B.P. 87. *Listera ovata* (L. Sp. 946) R. Br.

64. *Perfoliata vera*, Durchwachs, ed. 1539, i. 182; iii, 13 (text); C.K. p. cciv. *Perfoliata vulgatissima, sive arvensis* C.B.P. 277. *Bupleurum rotundifolium* L. Sp. 236.

65. *Perfoliata fœmina*, Durchwachs weiblin, i, 183 ; C.K. p. cccvi (Wylder Durchwachs Weiblin). *Ophris trifolia* C.B.P. 87. *Listera ovata* (L. Sp. 946) R. Br., an abnormal state with a third foliage-leaf (var. *trifoliata* Asch. et Graebn.).

66. *Narcissus martius*, Mertzenbluëmlin, i, 184 ; C.K. p. ccxvii. *Hyacinthus stellaris bifolius Germanicus* C.B.P. 45. *Scilla bifolia* L. Sp. 309.

67. *Saxifragia*, Hoher Steynbrech, i, 185 ; C.K. p. ccxxxix. *Saxifraga rotundifolia alba* C.B.P. 309. *Saxifraga granulata* L. Sp. 403.

68. *Hepatica*, Edel Leberkraut, Hyrszkleë (Hyrsszkleë) i, 190 ; C.K. p. clxxix. *Trifolium hepaticum flore simplici* C.B.P. 330. *Anemone Hepatica* L. Sp. 538.

69. *Iecoraria*, Leberkraut, i, 191 ; C.K. p. clxxvii. *Lichen petræus latifolius sive Hepatica fontana* C.B.P. 362. *Marchantia polymorpha* L. Sp. 1137. —Erroneously identified by Moretti as *Lichen pulmonarius* L. (*Lobaria pulmonaria* Hoffm.).

70. *Coriandrum*, Coriander, i. 203 ; C.K. p. cxvii. *Coriandrum majus* C.B.P. 158. *Coriandrum sativum* L. Sp. 256.

71. *Basilicum*, Basilienkraut, i, 206 ; C.K. p. ccxlv. *Ocimum vulgatius* C.B.P. 226. *Ocimum Basilicum* L. Sp. 597, teste Sprengel, Gesch. Bot. i. 261.

72. *Lilium convallis*, *Lilium convallium*, *Lilium sylvestre*, Meyenbluëmlin, i, 211 ; C.K. p. clxiv. *Lilium convallium album* C.B.P. 304. *Convallaria majalis* L. Sp. 314.

73. *Scrophularia maior*, Brunwurtz (Braunwurtz) i, 213 ; C.K. p. clxxiv. *Scrophularia nodosa fœtida* C.B.P. 235. *Scrophularia nodosa* L. Sp. 619.

74. *Scrophularia media*, Fotzwein, Fotzzwang, Wundtkraut, Knabenkraut, i, 214 ; C.K. p. clxxv. *Telephium vulgare* C.B.P. 287. *Sedum Telephium* L. Sp. 430.

75. *Scrophularia minor*, *Ficaria*, Fygwartzkraut, i, 215 ; C.K. p. clxxvi. *Chelidonia rotundifolia minor* C.B.P. 309. *Ranunculus Ficaria* L. Sp. 550.

76. Kuchenschell, Hacketkraut, i, 217 ; C.K. p. cxliii. *Pulsatillia folio crassiore et majore flore* C.B.P. 177. *Anemone Pulsatilla* L. Sp. 539.

77. *Flos cuculi* [C.B.P.], Gauchbluom, i, 218 ; C.K. p. cxxxi. *Nasturtium pratense magno flore* C.B.P. 104. *Cardamine pratensis* L. Sp. 656.

78. *Capillus Veneris*, Maurrut, Maurrauten, i, 219 ; iii, 14 (text) ; C.K. p. ccxlii. *Ruta muraria* C.B.P. 356. *Asplenium Ruta-muraria* L. Sp. 1081, forma *Brunfelsii* Heufer in Verh. Zool.-Bot. Ges. Wien, vi, 335 (1856).

79. *Hyoscyamus*, Bilsamkraut, Bylsamkraut, Sawbon, Iupitersbon, Schlaffkraut, i, 224 ; C.K. p. cxxxiv. *Hyoscyamus vulgaris vel niger* C.B.P. 169. *Hyoscyamus niger* L. Sp. 179.

80. *Pulegium*, Poley, i, 227 ; C.K. p. cxlvii. *Pulegium latifolium* C.B.P. 222. *Mentha Pulegium* L. Sp. 577.

81. *Pentaphyllon*, Fünffingerkraut, i, 233 ; iii, 6 (text). *Potentilla* sp.

82. *Chelidonia*, Schoelkraut, Schoelwurtz, i, 236 ; C.K. p. cxxxii. *Chelidonium majus vulgare* C.B.P. 144. *Chelidonium majus* L. Sp. 505.

83. *Anagallis mas*, Gauchheyl maennlin, i, 238 ; C.K. p. ccxii. *Anagallis phœniceo flore* C.B.P. 252. *Anagallis arvensis* L. Sp. 148.

84. *Anagallis fœmina*, Gauchheyl weiblin, i, 239. *Anagallis cœruleo flore* C.B.P. 252. *Anagallis fœmina* Mill. Gard. Dict. ed. 8, no. 2.

85. *Nigella*, Rattenbluomen, i, 241 ; iii, 16 (text) ; C.K. p. cclxiv. *Lychnis segetum major* C.B.P. 204. *Agrostemma Githago* L. Sp. 435.

86. *Matricaria*, Mettram, i, 245 (errore 249) ; iii, 63 (errore 62) ; C.K. p. cxli. *Matricaria vulgaris* C.B.P. 133. *Chrysanthemum Parthenium* (L. Sp. 890) Pers.

87. *Tanacetum*, Rœynfarn, Reinfaren, i, 250 ; ii, 88 (ed. 1531, 87) ; C.K. p. cxcviii. *Tanacetum vulgare luteum* C.B.P. 132. *Tanacetum vulgare* L. Sp. 844.

88. *Cotula foetida*, Hundtsbbluom, Krottendyll, i, 255 ; C.K. p. cxxxvii. *Chamæmelum foetidum* C.B.P. 135. *Anthemis Cotula* L. Sp. 894.

89. *Calendula*, Ringelbluom, Ringelbluemlin, i, 257 (errore 253) ; iii, 77 ; C.K. p. ccx. *Caltha vulgaris* C.B.P. 275. *Calendula officinalis* L. Sp. 921.

90. *Oculus bovis*, *Buphthalmus*, Gaenszbluomen, Sanct Johannis Blum, i, 258 (errore 254) ; iii, 17 (text) ; C.K. p. cxliv. *Bellis sylvestris caule folioso major* C.B.P. 261. *Chrysanthemum Leucanthemum* L. Sp. 888.

91. *Parietaria*, S. Peterskraut, Tag und nacht, ed. 1539, i, 262 ; ii, 23 (ed. 1531, 19) ; iii, 72 ; C.K. p. clxii. *Parietaria officinarum et Dioscoridis* C.B.P. 121. *Parietaria officinalis* L. Sp. 1052.

92. *Hedera*, Maur Epphew (Ephew), ii, 6 (ed. 1531, 10) ; C.K. p. cl. *Hedera major sterilis* C.B.P. 305. *Hedera Helix* L. Sp. 202.

93. *Hedera*, Epphew, Baum Ephew, ii, 7 (ed. 1531, 11) ; C.K. p. cli. *Hedera arborea* C.B.P. 305. *Hedera Helix* L. Sp. 202.

94. *Matersylva*, *Caprifolium* (errore), Waltmeyster, Waldtmeister, ii, 15 (ed. 1531, 11. bis, 82) ; iii, 15 (text) ; C.K. p. clxxviii. *Asperula, sive Rubeola montana odorata* C.B.P. 334. *Asperula odorata* L. Sp. 103.

95. *Pulicaria mascula*, Flehkraut (Floehkraut) maennlin, ii, 18 (ed. 1531, 14) ; iii, 15 (text) ; C.K. p. clxvi. *Polygonum Persicaria* L., teste Kirschl. Fl. ii, p. xvi.—Cited by C. Bauhin (Pinax, 101) under *Persicaria urens seu Hydropiper*, which is a synonym of *Polygonum Hydropiper* L. Sp. 361.

96. *Pulicaria fœmina*, Flehkraut (Floehkraut) weiblin, ii, 19 (ed. 1531, 15) ; iii, 15 (text) ; C.K. p. clxvii. *Polygonum lapathifolium* L., teste Kirschl. Fl. ii, p. xvi.

97. *Fœniculum*, Fenchel, ii, 24 (ed. 1531, 20) ; C.K. p. ccii. *Fœniculum vulgare Germanicum* C.B.P. 147. *Anethum Fœniculum* L. Sp. 263. *Fœniculum vulgare* Mill.—Moretti erroneously identified the figure as Dill, *Anethum graveolens* L., failing to allow for the small scale of the drawing. The much-divided leaves, with their large and conspicuous vaginae, are characteristic of Fennel. The figure was repeated under Dill, in vol. iii, p. 174—vide No. 207.

98. *Serpillum*, Quendel, Kyenlin, Huenerkoel, Huenerkoll, Wilde Boley, Unser frawen bettstro, Huenerserb, ii, 26 (ed. 1531, 22) ; C.K. p. clvi. *Serpyllum vulgare minus* C.B.P. 220. *Thymus Serpyllum* L. Sp. 590.

99. *Scabiosa*, Scabiosz, ii, 28 (ed. 1531, 24) ; C.K. p. xcii (bis). *Scabiosa major squammatis capitulis* C.B.P. 269. *Scabiosa columbaria* L. Sp. 99.—Linné does not cite the above synonym of Bauhin. This figure was erroneously identified by Moretti with *Scabiosa atropurpurea* L., which is not indigenous in Alsace, though now commonly cultivated there. It is an excellent picture of *S. columbaria*, and was cited by Kirschleger under that species as “ic. optim.”

100. *Solidago*, Masszlyebelin, Zeitloesslin, Klein Zeitloesslin oder Masszlieblin, ii, 29 (ed. 1531, 25) ; C.K. p. ccxcii. *Bellis sylvestris minor* C.B.P. 261. *Bellis perennis* L. Sp. 886.

101. *Eupatorium*, Wild Salbey, ii, 30 (ed. 1531, 26) ; C.K. p. lxxxviii. *Horminum pratense foliis serratis* C.B.P. 238. *Salvia pratensis* L. Sp. 25.—Identified by Sprengel as *Salvia Verbenaca* L.

102. *Solanum*, Nachtschatt, ii, 33 (ed. 1531, 29) ; C.K. p. exciii. *Solanum officinarum* C.B.P. 166. *Solanum nigrum* L. Sp. 186.

103. *Pentaphyllum maius*, Gross Fünfffingerkraut, Fünfffingerkraut, ii, 37 (ed. 1531, 33) ; C.K. p. cliv. *Quinquefolium rectum luteum* C.B.P. 325. *Potentilla recta* L. Sp. 497, var. *obscura* Koch, Syn. 213 (1837).—Kirschleger identified the figure as *Potentilla argentea* L., to which I think it bears less resemblance, especially in the leaves.

104. *Pentaphyllum minus*, Klein Fünfffingerkraut, ii, 38 (ed. 1531, 34) ; C.K. p. cliii. *Quinquefolium majus repens* C.B.P. 325. *Potentilla reptans* L. Sp. 499.

105. Gensbluom, Genszbluom, ii, 38 (ed. 1531, 34) ; C.K. p. clviii. *Bursa pastoris minor loculo oblongo* C.B.P. 108. *Erophila verna* (L. Sp. 642) E. Mey. ex Garcke.

106. *Hyrundinaria*, Schwalbenwurtz, ii, 39 (ed. 1531, 36) ; C.K. p. clix. *Asclepias albo flore* C.B.P. 303. *Asclepias Vincetoxicum* L. Sp. 216. *Vincetoxicum officinale* Moench.

107. *Fragaria*, Erdtberkraut, Erdtboerkraut, ii, 40 (ed. 1531, 35) ; iii, 8 (text) ; C.K. p. cc. *Fragaria vulgaris* C.B.P. 326. *Fragaria vesca* L. Sp. 494.

108. *Herba Roperti*, Storckenschnabel, ii, 41 (ed. 1531, 37) ; C.K. p. cxcvi. *Geranium cicutæ folio minus et supinum* C.B.P. 319. *Erodium cicutarium* (L. Sp. 680) L'Hérit.—Erroneously identified with *Geranium Robertianum* L. by Sprengel, owing to the name *Herba Roperti* being used for it by Brunfels. Accepted by Church (12, p. 238) as "Herb Robert, from a dry situation."

109. Scheysszkraut, Lynkraut, ii, 43 (ed. 1531, 39) ; C.K. p. lxxviii. *Antirrhinum Linaria* L. Sp. 616. *Linaria vulgaris* Mill.—C. Bauhin (Pinax, 212) cited *Linaria* (and *Pseudolinum*) Brunf. under his *Linaria vulgaris lutea flore majore*, which is *Linaria vulgaris* Mill. But Brunfels himself had not connected Scheysszkraut with *Linaria* (i, 193 ; ii, 276, 304), as he stated that he knew only the German name of the plant.

110. *Scolopendrium*, *Scolopendrion*, *Lingua cervina*, Hirtzzung, ii, 44 (ed. 1531, 40) ; C.K. clxxi. *Lingua cervina officinarum* C.B.P. 353. *Phyllitis Scolopendrium* (L. Sp. 1079) Newman.

111. *Garyophyllata*, *Caryophyllata*, *Sanamunda*, *Herba Benedicta*, *Benedictenwurtz*, *Benedictenwurtzel*, ii, 46 (ed. 1531, 42) ; iii, 24 ; C.K. p. clx. *Caryophyllata vulgaris* C.B.P. 321. *Geum urbanum* L. Sp. 501.

112. *Cardo paris (panis)*, Eberwurtz, ii, 47 (ed. 1531, 43) ; iii, 35 ; C.K. p. ccxviii. *Carlina acaulos magno flore* C.B.P. 380. *Cirsium acaule* (L. Sp. 1199) Weber ex Wiggers.—Cited by Sprengel as *Carlina acaulis* L.

113. *Acorus*, Geel wasser Gilgen, ii, 51 (ed. 1531, 47) ; C.K. p. cix. *Acorus adulterinus* C.B.P. 34. *Iris Pseudacorus* L. Sp. 38.

114. *Iacea nigra*, *Morsus Diaboli*, Abbissz, Teüffels Abbissz, ii, 54 ; C.K. pp. xc et xcii. *Succisa glabra* C.B.P. 269. *Scabiosa Succisa* L. Sp. 98. *Succisa pratensis* Moench.

115. *Herba fullonum*, Madelgeer, Magdelgeer, Kreützwurtz, ii, 56 (ed. 1531, 52) ; C.K. p. cxxxix. *Gentiana cruciata* C.B.P. 188. *Gentiana Cruciata* L. Sp. 231.

116. *Pes leonis*, *Leontopodium*, Synnaw, Unser Frawen Mantel, ii, 57 (ed. 1531, 53) ; iii, 79 ; C.K. p. clxxx. *Alchemilla vulgaris* C.B.P. 319. *Alchemilla vulgaris* var. β L. Sp. 123.

117. *Trifolium maius*, Braun Fleyschbluom, ii, 58 (ed. 1531, 54) ; iii, 47 ; C.K. p. ccxix. *Melampyrum purpurascens coma* C.B.P. 234. *Melampyrum arvense* L. Sp. 605.

118. *Trifolium album*, Weissz Fleyschbluom, ii, 59 (ed. 1531, 55) ; iii, 48 ; C.K. p. ccxx. *Trifolium repens* L. Sp. 767, *fide* Erith, White Clover, 100 (1924).—Sprengel identified the figure as *T. hybridum* L.

119. *Flos S. Jacobi* [C.B.P.], Sanct Jacobs bluum, ii, 60 (ed. 1531, 56) ; C.K. p. cccxvii. *Jacobaea vulgaris laciniata* C.B.P. 131. *Senecio Jacobaea* L. Sp. 870.

120. Negelbluemlin, Negelkraut, ii, 61 (ed. 1531, 57) ; C.K. p. excii. *Matthiola incana* (L. Sp. 662) R. Br.—Bauhin does not cite this figure of Brunfels. Identified by Moretti as *M. annua* Sweet (*M. incana* var. *annua* Voss).

121. Dondernegelin, ii, 62 (ed. 1531, 58) ; C.K. p. xcvi. *Caryophyllus sylvestris vulgaris latifolius* C.B.P. 209. *Dianthus carthusianorum* L. Sp. 409.

122. *Rosmarinus*, Rosmarin, ii, 63. *Rosmarinus hortensis angustiore folio* C.B.P. 217. *Rosmarinus officinalis* L. Sp. 23.

123. *Lappa*, *Lappa maior*, Kletten, Grossz Kletten, ii, 65 (ed. 1531, 61) ; iii, 54 ; C.K. p. ccxciii. *Arctium minus*, Bernh., *teste* Kirschl. Fl. ii, p. xvi. —Cited by C. Bauhin (Pinax, 198) under his *Lappa major*, *Arctium Diosc.*, which is one of the synonyms cited under *Arctium Lappa* L. Sp. 816.

124. *Melilotum*, *Melilotum minus*, Steinklee, Kleiner Steinklee, ii, 68 (ed. 1531, 164) ; iii, 48 ; C.K. p. ccxx. *Trifolium pratense luteum capitulo brevior* C.B.P. 328. *Medicago lupulina* L. Sp. 779.

125. *Carduus*, *Dipsacus minor*, Saewdistel, Sew Distelen, ii, 69 (ed. 1531, 65) ; iii, 33 ; C.K. p. cclxxv. *Carlina vulgaris* L. Sp. 828.—Apparently not cited by C. Bauhin. Not a good figure, but the involueral bracts clearly indicate *Carlina vulgaris*. Moretti suggested that it might be *Carduus nutans* L., to which it bears no particular resemblance.

126. *Carduus fullonum*, Kartendystel, Karten distelen, ii, 70 (ed. 1531, 66) ; iii, 32 ; C.K. p. cclxxiv. *Dipsacus sylvestris aut Virga pastoris major* C.B.P. 385. *Dipsacus fullonum* var. α L. Sp. 97. *Dipsacus sylvestris* Mill. Gard. Dict. ed. 8, no. 1.

127. *Carduus albus*, Fechdystel, Fehdystel, ii, 71 (ed. 1531, 67) ; iii, 41 ; C.K. p. cclxxviii. *Carduus albis maculis notatus vulgaris* C.B.P. 381.

Silybum Marianum (L. Sp. 823) Gaertn.—Identified by Sprengel as *Cnicus oleraceus* L., which has very different phyllaries.

128. *Acetosa*, *Lapathum* (*Lappatum*) *acetosum*, Saurampffer, ii, 72 (ed. 1531, 68); iii, 83; C.K. p. cclxix. *Acetosa pratensis* C.B.P. 114. *Rumex Acetosa* L. Sp. 337.—Moretti identified it as *Rumex Pseudo-Acetosa* Bert., which is the typical wild form of *R. Acetosa* L.

129. *Unifolium*, *Einblatt*, ii, 72, fig. dextra (ed. 1531, 68); C.K. p. ccxxxv. *Lilium convallium minus* C.B.P. 304. *Maianthemum bifolium* (L. Sp. 316) F. W. Schmidt.

130. *Herba Trinitatis*, *Herba Sanctæ Trinitatis*, Dreyfaltigkeytbluemlin Dreyfaltigkeytbluom, ii, 73 (ed. 1531, 69); iii, 29; C.K. p. cxxx. *Viola tricolor hortensis repens* C.B.P. *Viola tricolor* var. β L. Sp. 935.

131. *Malva*, Gensbappel, Gaenszbappelen, i, 197 (text); ii, 74 (ed. 1531, 70); C.K. p. ccxxviii. *Malva sylvestris folio rotundo* C.B.P. 314. *Malva rotundifolia* L. Sp. 688.

132. *Malva equina*, Roszbappelen, i, 197 (text); ii, 75 (ed. 1531, 71); C.K. p. ccxxvii. *Malva sylvestris folio sinuato* C.B.P. 314. *Malva sylvestris* L. Sp. 689.

133. *Herba Simeonis*, *Alcea*, Sigmarswurtz, i, 197 (text); ii, 76 (ed. 1531, 72); C.K. p. ccxxxii. *Alcea vulgaris major* C.B.P. 316. *Malva Alcea* L. Sp. 689.

134. *Nasturtium*, Kressen, Kresszen, ii, 77 (ed. 1531, 73); C.K. p. cclix. *Nasturtium hortense vulgatum* C.B.P. 103. *Lepidium sativum* L. Sp. 644.

135. *Menta*, *Mentha rubea*, *Mentha aquatica*, Fischmüntz, ii, 80 (ed. 1531, 76); C.K. p. ccliii. *Mentha* sp.—cited by C. Bauhin (Pinax, 227) under his *Mentha rotundifolia palustris, seu aquatica major*, which is one of the synonyms of *Mentha aquatica* L. Sprengel and Moretti identified the figure as *Mentha rubra* Sm. Kirschleger considered it to be *M. verticillata* Riv. (*M. gentilis* et *sativa* L.).

136. *Sanicula minor*, Kleiner oder Wylder Sanickel, Regenwürmlin (the root), ii, 84 (ed. 1531, 80); C.K. pp. xvii (text only), cxi. *Anemone nemorosa flore majore* C.B.P. 176. *Anemone nemorosa* L. Sp. 541.

137. *Sanguinaria*, Bluotkraut, ii, 85 (ed. 1531, 81); C.K. p. ccxxiii. *Atriplex* sp.—This figure is apparently not cited by C. Bauhin. The specimen was apparently diseased, with curled-up leaves, and the figure is very poor.

138. *Raponeoli*, Rapüntzlin, Rapüntzelin, ii, 86 (errore 84) (ed. 1531, 84); C.K. p. clxxiii. *Rapunculus esculentus* C.B.P. 92. *Campanula Rapunculus* L. Sp. 164.

139. *Artemisia*, Buck. Rote Buck, Beyfuossz, i, 265 (text) ; ii, 87 (ed. 1531, 83, errore "41") ; C.K. p. ccxxxvi. *Artemisia vulgaris major* C.B.P. 137. *Artemisia vulgaris* L. Sp. 848.

140. *Salvia*, Salbey, ii, 92. *Salvia major* C.B.P. 237. *Salvia officinalis* L. Sp. 23.

141. *Valeriana*, Baldrian, ii, 95 ; C.K. p. cxv. *Valeriana sylvestris major* C.B.P. 164. *Valeriana officinalis* L. Sp. 31.

142. *Ebulus*, Attich, iii, 22 ; C.K. ii, p. iv. *Sambucus humilis sive Ebulus* C.B.P. 456. *Sambucus Ebulus* L. Sp. 269.

143. *Brunella*, Braunellen, Brunellen, iii, 9 (text) ; iii, 26 ; C.K. p. cxc. *Trifolium pratense* L. Sp. 768.—Not identified by Sprengel or Moretti.

144. *Pimpinella*, Bibenell, iii, 28 ; C.K. p. ccxliv. *Pimpinella saxifraga major umbella candida* C.B.P. 159. *Pimpinella saxifraga* var. γ L. Sp. 263.

145. *Bursa pastoris maior*, Grossz Deschelkraut, iii, 30, fig. sinistra ; C.K. p. clxxxvi, fig. sinistra. *Bursa pastoris major folio sinuato* C.B.P. 108. *Capsella Bursa-pastoris* (L. Sp. 647) Medic.

146. *Bursa pastoris minor*, Kleyn Deschelkraut, iii, 30, fig. dextra ; C.K. p. clxxxvi, fig. dextra. *Nasturtium sylvestre* *Osyridis folio* C.B.P. 105. *Lepidium rudemale* L. Sp. 645.

147. *Chamæpitys*, Erd Weyrauch, Erdtweyrauch, iii, 36 ; C.K. p. ccxlix. *Veronica Teucrium* L. (Sp. ed. 2, 16) ; Reichb. Ic. Fl. Germ. xx. t. 1709.—Erroneously included by C. Bauhin (Pinax, 248) in his *Chamædryis minor repens*, which is a synonym of *Teucrium Chamædryis* var. β L. Sp. 565. Identified by Sprengel and Moretti as *Veronica prostrata* L.

148. *Endivia*, Andisten, Antiffien, iii, 38 ; C.K. p. cclxxxiv. *Lactuca sylvestris costa spinosa* C.B.P. 123. *Lactuca virosa* var. δ L. Sp. 795.—The figure purports to represent Endive, *Cichorium Endivia* L., but is apparently *Lactuca virosa*. Moretti identified it as *Sonchus ciliatus* Lam. (*S. oleraceus* L.), but the inflorescence and capitula suggest rather *Lactuca*.

149. *Affodillus*, Goldtwurtz, Goldwurtz, Gold Gilgen, iii, 43, fig. sinistra ; C.K. p. xvi. *Lilium floribus reflexis montanum* C.B.P. 77. *Lilium Martagon* L. Sp. 303.

150. *Lilium rubrum* [C.B.P.], Rote Gilgen, iii, 43, fig. dextra ; C.K. p. cviii. *Lilium croceum* Chaix.—Cited by C. Bauhin (Pinax, 76) under his *Lilium purpurocroceum majus*, which is one of the synonyms cited under *Lilium bulbiferum* L. Sp. 302. Moretti identified it as *L. bulbiferum*.

151. *Potentilla*, Genszerich, iii, 45 ; C.K. p. ccxxxiii. *Potentilla* C.B.P. 321. *Potentilla Anserina* L. Sp. 495.

152. *Melilotum majus* [C.B.P.], *Fragaria*, Guldener Klee, Hoher Steynbrech, iii, 49. *Melilotus officinarum Germanice* C.B.P. 331. *Trifolium Melilotus officinalis* L. Sp. 765. *Melilotus officinalis* (L.) Lam.—Moretti cited it under the synonym *M. arvensis* Wallr.

153. *Trifolium acetosum*, Gauch ampffer, Gauchklee, iii, 50; ed. 1540, iii, 50 (reduced and reversed); C.K. p. ccxxi. *Trifolium acetosum vulgare* C.B.P. 330. *Oxalis Acetosella* L. Sp. 433.

154. *Papaver rubrum (rubeum)*, Klapper Roszen, iii, 52; C.K. p. ccxxiv. *Papaver erraticum majus* C.B.P. 171. *Papaver Rhœas* L. Sp. 507.

155. *Lappa minor*, Klein Kletten, iii, 55; C.K. p. ccxciv. *Lappa minor*, *Xanthium Diosc.* C.B.P. 198. *Xanthium strumarium* L. Sp. 987.

156. *Verbascum*, Wullkraut, iii, 57; C.K. ii, p. cxxxi. *Verbascum Thapsus* L. Sp. 177, teste Sprengel, Gesch. Bot. i, 260, et Kirschleger, Fl. i, 540.—Moretti referred it to *V. phlomoides* L.

157. *Eryngium*, Mannstrew, iii, 59; C.K. p. cclxxxi. *Carduus stellatus foliis papaveris erratici* C.B.P. 387. *Centaurea Calcitrapa* L. Sp. 917.

158. *Melissa*, Muotterkraut, iii, 61; C.K. p. ccci; C.K. ii, p. cxxxiii. *Melissa hortensis* C.B.P. 229. *Melissa officinalis* L. Sp. 592.

159. *Astrantia*, Meisterwurtz, iii, 65; C.K. ii, p. cxxi. *Imperatoria major* C.B.P. 156. *Peucedanum Ostruthium* (L. Sp. 259) Koch.—The Latin and German names *Angelica* also accompanying the figure relate not to this species but to *Archangelica officinalis*, no. 272.

160. *Agrimonia*, Odermeng, Odermenig, iii, 68; C.K. p. lxxxvi. *Eupatorium veterum sive Agrimonia* C.B.P. 321. *Agrimonia Eupatoria* L. Sp. 448.

161. *Dens leonis*, Sonnenwürbel, iii, 70; C.K. p. cclxxxix. *Dens Leonis latiore folio* C.B.P. 126. *Leontodon Taraxacum* L. Sp. 798. *Taraxacum officinale* Weber.

162. *Ruta*, Rautten, Raut, iii, 74 (errore 75); C.K. p. ccvii. *Ruta hortensis latifolia* C.B.P. 336. *Ruta graveolens* var. β L. Sp. 383.

163. *Hypericum*, S. Johannis Kraut, iii, 81; C.K. ii, p. cxli. *Hypericum vulgare* C.B.P. 279. *Hypericum perforatum* L. Sp. 785.

164. *Lappatum acutum*, Mengelwurt, iii, 84; C.K. cclxx. *Rumex obtusifolius*, L. Sp. 335.—Sprengel identified the figure as *R. acutus* L. Moretti referred it to *R. conglomeratus* Murr.

165. *Pyrola*, Wintergruen, Wintergryen, iii, 88; C.K. p. clxxxviii. *Pyrola rotundifolia major* C.B.P. 191. *Pyrola rotundifolia* L. Sp. 397.

166. *Volubilis*, Wynd, iii, 90 ; C.K. ii, p. vi. *Convolvulus major albus* C.B.P. 294. *Calystegia sepium* (L. Sp. 153) R. Br.

167. *Sigillum Salomonis*, Weisszwurtz, iii, 92 ; C.K. p. ccxvi. *Polygonatum multiflorum* (L. Sp. 315) All.—Cited by C. Bauhin (Pinax, 303) under his *Polygonatum latifolium vulgare*, which is one of the synonyms of *Convallaria Polygonatum* L. Sp. 315 (*Polygonatum officinale* All.). Both Kirschleger and Moretti identified the figure as *P. multiflorum*.

168. *Solsequium*, Wegwart, iii, 94 ; C.K. p. cclxxxvii. *Cichorium sylvestre sive Officinarum* C.B.P. 125. *Cichorium Intybus* L. Sp. 813.

169. *Uvularia*, Zapflin kraut maennlin, iii, 96, C.K. ii, p. cxxvi; and *Uvularia*, Zapflin kraut weiblin, iii, 97, C.K. ii, p. cxxvii. *Laurus Alexandrina fructu pediculo insidente* C.B.P. 304. *Ruscus Hypoglossum* L. Sp. 1041.—Referred to *Uvularia amplexifolia* L. (*Streptopus amplexifolius* Lam. et DC.) by Sprengel, who unaccountably overlooked the large foliaceous bract on the middle of the cladode. Moretti, who also overlooked the bract, referred the first figure (maennlin) to *Streptopus amplexifolius*, and the second (weiblin) to *Convallaria latifolia* Jacq. (*Polygonatum latifolium* Desf.).

170. *Anisum*, Enis (errore), *Enula Campana*, Alant, Alantwurtz, iii, 99 ; C.K. ii, p. cxxii. *Helenium vulgare* C.B.P. 276. *Inula Helenium* L. Sp. 881.—The leaves are erroneously represented as opposite in the figure. The identification as *Inula Helenium* was rejected by Moretti because the ray-florets were coloured blue in the copy which he had seen. Apart from the fact that the work was issued uncoloured, it may be noted that Brunfels himself described the flower as yellow : “cui superne luteus flos imminet.”

171. *Portulaca*, Burtzelkraut, iii, 102 ; C.K. ii, p. cxxxvi. *Alsine palustris rotundifolia repens, foliis portulacæ pinguibus binis ex adverso nascentibus, flosculis virescentibus rosaceis* Lindern, Tournef. Alsat. 114, t. 2, lit. b. *Isnardia palustris* L. Sp. 120.—The figure purports to represent Purslane, *Portulaca oleracea* L., but cannot be that plant. It is evidently *Isnardia palustris* L., which, according to Lindern (1728), was known in Alsace under the vernacular name “Wasser Burtzel.” Both Moretti and Bubani (Fl. Pyren. iii, 2) accepted it as *Portulaca oleracea*, but Bubani added “fig. mala.”

172. *Carduus*, Unser frawen dystel, iii, 104. *Onopordon Acanthium* L. Sp. 827.

173. *Anisum*, Enisz, iii, 105. *Pimpinella Anisum* L. Sp. 264.

174. *Apium*, Epffich, Epffig, iii, 107 ; C.K. ii, p. cxxix. *Apium palustre et Apium officinarum* C.B.P. 154. *Apium graveolens* L. Sp. 264.

175. *Polypodium*, Engelfuossz, iii, 110. *Polypodium vulgare* C.B.P. 359. *Polypodium vulgare* L. Sp. 1085.—Figure afterwards repeated under another name (no. 184).

176. *Premulæ veris bulbus*, Zeitloesslin blum (und wurtzel), iii, 115. *Colchicum commune* C.B.P. 67. *Colchicum autumnale* L. Sp. 341.

177. *Levisticus*, Liebstoeckel, Lyebstoeckel, iii, 116 ; C.K. ii, p. cxxv. *Ligusticum vulgare* C.B.P. 157. *Ligusticum Levisticum* L. Sp. 250. *Levisticum officinale* Koch.

178. *Lenticula aquæ*, Moerlynssen, iii, 118 ; C.K. ii, pp. viii (errore xiii), cxxxv, fig. super. *Lenticula palustris vulgaris* C.B.P. 362. *Lemna* sp.

179. *Auricula muris*, Meüszoerlin, iii, 119. *Pilosella major repens hirsuta* C.B.P. 262. *Hieracium Pilosella* L. Sp. 800.

180. *Piperitis*, Pfefferkraut, iii, 120 ; C.K. ii, p. cxxiv. *Lepidium latifolium* C.B.P. 97. *Lepidium latifolium* L. Sp. 644.

181. *Petroselinum*, Peterlin, iii, 121 ; C.K. ii, p. cxxviii. *Apium hortense*, seu *Petroselinum vulgo* C.B.P. 153. *Apium Petroselinum* L. Sp. 264.

182. *Liquiricia*, Suesszholtz, iii, 123 ; C.K. ii, p. cxxx. *Glycyrrhiza siliquosa vel Germanica* C.B.P. 352. *Glycyrrhiza glabra* L. Sp. 742.

183. *Centaurea*, Tausent guldin Kraut, iii, 125 ; C.K. ii, p. cxxxv, fig. infer. *Centaureum minus* C.B.P. 278. *Erythræa Centaurium* (L. Sp. 229) Pers. *Centaureum umbellatum* Gilib.

184. *Filix*, Waldtfar, Waldtfaren, iii, 127 ; C.K. p. cccv. *Polypodium vulgare* L. Sp. 1085.—Figure repeated from iii, 110 (no. 175).

185. *Smilax*, Welsch Bonen, Wyld Bonen, iii, 129 ; *Lupinus*, Feigbonen, C.K. ii, p. lxxii. *Lychnis sylvestris quæ Been album vulgo* C.B.P. 205. *Cucubalus Behen* L. Sp. 414. *Silene vulgaris* (Moench) Garcke.

186. *Althæa*, Ybisch, Ibisch, iii, 132 ; C.K. ii, p. cxliii. *Althæa Dioscoridis et Plinii* C.B.P. 315. *Althæa officinalis* L. Sp. 686.

187. *Allium*, Knoblauch, Moerzybel, iii, 135 ; C.K. ii, p. xxxviii. *Allium Scorodoprasum* L. Sp. 297.

188. *Porrum*, Wylder Lauch, iii, 136 ; C.K. ii, p. xxxv. *Porrum commune capitatum* C.B.P. 72. *Allium Porrum* L. Sp. 295.

189. *Allium sylvestre*, Wylder Knoblauch, iii, 137 ; C.K. ii, p. xxxiv. *Allium sylvestre latifolium* C.B.P. 74. *Allium ursinum* L. Sp. 300.

190. *Cuminum*, Küwich, iii, 138. *Umbelliferae*.—The figure purports to represent Cumin, *Cuminum Cyminum* L. Sp. 254, but is obviously not that species.

191. *Rapistrum*, Hederich, iii, 139 (errore 159) ; C.K. ii, p. xliii. *Rapistrum flore luteo* C.B.P. 95. *Sinapis arvensis* L. Sp. 668.—Identified as *Raphanus Raphanistrum* L. by Sprengel.

192. *Cherefolium*, Koerbelkraut, iii, 141.—The text refers to *Chærophyllyum sativum* C.B.P. 152, *Anthriscus Cerefolium* (L. Sp. 257) Hoffm., but the figure is unrecognizable.

193. *Absynthium*, Wermuot, iii, 142 ; C.K. ii. p. ix. *Absynthium Ponticum*, seu *Romanum officinarum*, seu *Dioscoridis* C.B.P. 138. *Artemisia Absinthium* L. Sp. 848.

194. *Cauda equina*, *Equisetum*, Schafftenhaw, Schaffthaew, iii, 144 ; C.K. ii, p. xi. *Equisetum limosum* L. Sp. 1062, teste Sprengel, Gesch. Bot. i, 262

195. *Crocus*, Saffron, Zammer Saffron, iii, 150 ; C.K. ii, p. cxi. *Colchicum autumnale* L. Sp. 341.—The figure purports to represent the Saffron Crocus, *Crocus sativus* C.B.P. 65, *Crocus sativus* var. *officinalis* L. Sp. 36, but as pointed out by Moretti it is *Colchicum autumnale*. It appears to have been redrawn from the figure on p. 115—vide Nos. 176, 243.

196. *Cartamus*, Wylder Saffron, iii, 152 ; C.K. ii, p. xvi. *Cnicus sativus*, sive *Carthamus officinarum* C.B.P. 378. *Carthamus tinctorius* L. Sp. 830.

197. *Genista*, Pfrymmen, iii, 154 ; C.K. ii, p. xii. *Genista angulosa et scoparia* C.B.P. 395. *Cytisus scoparius* (L. Sp. 709) Link.

198. *Rhabarbarum*, Rheubarbarum, Rheubarb, iii, 156 ; C.K. ii, p. civ *Hippolapathum latifolium* C.B.P. 115. *Rumex Patientia* L. Sp. 333.

199. *Origanum*, Wolgemuot, iii, 159 ; C.K. ii, p. c. *Origanum sylvestre* *Cunila bubula* Plinii C.B.P. 223. *Origanum vulgare* L. Sp. 590.

200. *Pycnocomos*, Geysszbart, iii, 165 ; C.K. ii, p. cvi. *Angelica sylvestris minor sive erratica* C.B.P. 155. *Ægopodium Podagraria* L. Sp. 265.

201. *Lychnis agria*, *Lychnis agrestis*, Kornblumen, iii, 167 ; C.K. ii, p. xviii. *Cyanus segetum* C.B.P. 273. *Centaurea Cyanus* L. Sp. 911.

202. *Sion*, Bachbung, Bachbunn, iii, 169 ; C.K. ii, p. cxvi. *Anagallis aquatica minor folio subrotundo* C.B.P. 252. *Veronica Beccabunga* L. Sp. 12. —Moretti identified the figure as *V. Beccabunga* var. *minor*.

203. *Millefolium in semine*, Garb im somen, Garb, iii, 170 ; C.K. ii, p. xx. *Sisymbrium Sophia* L. Sp. 659.

204. *Millifolium album*, Weisse Garb, iii, 171, fig. super. ; C.K. ii, p. xxi. *Millefolium vulgare album* C.B.P. 141. *Achillea Millefolium* L. Sp. 899.

205. *Millefolium parvum*, Kleyne Garb, iii, 171, fig. infer. ; C.K. ii, p. xxi, fig. infer. *Achillea Millefolium* L.

206. *Pastinaca*, Bestenau, iii, 172 ; C.K. ii, p. xxii. *Sphondylium vulgare hirsutum* C.B.P. 157. *Heracleum Sphondylium* L. Sp. 249.—The figure is supposed to represent the Parsnip, *Pastinaca sativa* L., but really belongs to *Branca ursina*, Baerenklaw, iii, 149, and may have been intended by Brunfels to accompany the text of that species.

207. *Anethum*, Dyll, iii, 174 ; C.K. ii, p. xxvi.—The figure purports to represent Dill (*Anethum graveolens* L.), but is actually a reproduction of the figure of Fennel (*Foeniculum vulgare* Mill.) given in vol. ii, p. 24—vide No. 97.

208. *Asparagus*, Spargen, iii, 176 ; C.K. ii, p. xxiv. *Asparagus sativa* C.B.P. 489. *Asparagus officinalis* var. *altilis* L. Sp. 313.

209. *Canabis*, Hanff, Harff, iii, 178 ; C.K. ii, p. xxviii. *Cannabis sativa* C.B.P. 320. *Cannabis sativa* L. Sp. 1027.

210. *Betonica alba*, Weissz Betonien, iii, 180. *Betonica alba* C.B.P. 235. *Betonica officinalis* var. *alba* L. Sp. 573. *Stachys officinalis* (L.) Trevisan, flore albo.—Brunfels states that he received *Betonica alba* from Tragus. The latter (Stirp. Comment. i, 197) called it *Betonica candida*, and mentioned that it differed from *Betonica purpurea* only in the colour of the flower. The figure was identified by Moretti as *Stachys recta* L.—erroneously, in my opinion.

211. *Cucurbita*, Kürbsz, iii, 188 ; C.K. ii, p. lxxviii. *Cucurbita lagenaria flore albo, folio molli* C.B.P. 313. *Cucurbita lagenaria* L. Sp. 1010. *Lagenaria vulgaris* Ser.

212. *Napi*, Nopen, iii, 193. *Napus sativa* C.B.P. 195. *Brassica Napus* var. β L. Sp. 666.

213. *Rapa*, Ruob, iii, 194 ; C.K. ii, p. xlvi. *Rapa sativa rotunda* C.B.P. 89. *Brassica Rapa* L. Sp. 666. *Brassica campestris* var. *Rapa* (L.) Hartm.

214. *Raphanus*, Rettich, iii, 196 [vel errore 201] ; C.K. ii, p. xlvi, fig. sinistra. *Raphanus major orbicularis, vel rotundus* C.B.P. 96. *Raphanus sativus* L. Sp. 669.

215. *Siser*, Geirlin, iii, 198 ; C.K. ii, p. xlv.—The figure purports to represent Skirret, *Sium Sisarum* L., but cannot be that species, as the leaves are quite unlike. It resembles Salsify, *Tragopogon porrifolius* L. Moretti regarded the figure as fictitious.

216. *Brassica*, Koel, Kappeskraut, iii, 199 ; C.K. ii, p. l. *Brassica capitata alba* C.B.P. 111. *Brassica oleracea* var. *capitata* L. Sp. 667.

217. *Triticum*, Weysszen, iii, 201 [vel errore 196] ; C.K. ii, p. liv. *Triticum hybernum aristis carens* C.B.P. 21. *Triticum hybernum* L. Sp. 86.

218. *Siligo*, Rocken, iii, 203 ; C.K. ii, p. lvi. *Secale hybernum vel majus* C.B.P. 23. *Secale cereale* L. Sp. 84.

219. *Avena*, Haberen, iii, 205 ; C.K. ii, p. lvii. *Avena vulgaris seu alba* C.B.P. 23. *Avena sativa* var. β L. Sp. 79.

220. *Zea*, Speltz, iii, 206 ; C.K. ii, p. lviii. *Zea dicoccos vel major* C.B.P. 22. *Triticum Spelta* L. Sp. 86.

221. *Hordeum*, Gerst, iii, 208 ; C.K. ii, p. lx. *Hordeum polystichum hybernum* C.B.P. 22. *Hordeum vulgare* L. Sp. 84.

222. *Faba*, Bonen, iii, 211 ; C.K. ii, p. lxiv. *Faba* C.B.P. 338. *Vicia Faba* L. Sp. 737.

223. *Pisum*, Erbsssen, iii, 213 ; C.K. ii, p. lxvi. *Pisum arvense* C.B.P. 342. *Pisum sativum* L. Sp. 727.

224. *Lens*, Lynssen, iii, 214. *Lens vulgaris* C.B.P. 346. *Ervum Lens* L. Sp. 735. *Lens culinaris* Medic.

225. *Milium*, Hyrss, iii, 216 ; C.K. ii, p. lxx. *Milium semine luteo vel albo* C.B.P. 26. *Panicum miliaceum* L. Sp. 58.

226. *Ervum*, Wicken, iii, 218 ; C.K. ii, p. lxxi. *Vicia sativa vulgaris semine nigro* C.B.P. 344. *Vicia sativa* L. Sp. 736.

227. *Papaver*, Magsomen, Magsor, iii, 220 ; C.K. ii, p. lxxiii. *Papaver hortense semine albo sativum* C.P.B. 170. *Papaver somniferum* L. Sp. 508.

228. Frawen roeszlin, C.K. pp. xcvi, clxxxv. *Lychnis Coronaria* (L. Sp. 436) Desr.

229. *Lilium*, Weissz Gilgen, C.K. p. cii. *Lilium album flore erecto et vulgare* C.B.P. 76. *Lilium candidum* L. Sp. 302.

230. *Iris*, Blaw Gilgen, C.K. p. cxii. *Iris vulgaris Germanica sive sylvestris* C.B.P. 30. *Iris germanica* L. Sp. 38.

231. Edler Hanenfuossz, C.K. p. cxxviii. *Geranium pyrenaicum* N. L. Burm.—Identified by Moretti and Bubani (Fl. Pyren. iii, 319), with *Geranium columbinum* L. Sp. 682, but the flowers, and especially the petals, are too large, and the cutting of the leaves is very different.

232. *Chamomilla*, Chamillen, i, 252 (text) ; C.K. p. cxxxvi. *Chamæmelum vulgare*, *Leucanthemum* Diosc. C.B.P. 135. *Matricaria Chamomilla* L. Sp. 891.

233. *Morsus gallinæ major* [C.B.P.], Grosz Vogelkraut, C.K. p. ccxiv, fig. sinistra. *Stellaria aquatica* (L. Sp. 439) Scop.—Cited by C. Bauhin (Pinax, 250) under his *Alsine altissima nemorum*, which is a synonym of *Stellaria nemorum* L. Sp. 421.

234. *Morsus gallinæ minor* [C.B.P.], Klein Vogelkraut, C.K. p. ccxiv, fig. dextra. *Stellaria media* (L. Sp. 272) Vill.

235. *Esula*, Wolffsmilch, i, 194 (text) ; C.K. p. cxxxiii. *Tithymalus helioscopius* C.B.P. 291. *Euphorbia Helioscopia* L. Sp. 459.

236. *Saxifraga*, Edeler Steinbrech, C.K. p. cxxxviii. *Herniaria glabra* L. Sp. 218.—Moretti appears to have been the first to identify this figure. I had come to the same conclusion before seeing his paper,

237. *Saxifraga rubea*, *Alkekengi*, Schlutten, Boboröllen, Judenkirssen, i, 188 (text); ii, 35 et iii, 15, sub voce *Solanum* (text); C.K. p. ccxlii. *Solanum vesicarium* C.B.P. 116. *Physalis Alkekengi* L. Sp. 183.

238. *Capillus Veneris*, Widerthon, Widertodt, C.K. p. ccxliii. *Polytrichum aureum minus* C.B.P. 356. *Polytrichum commune* L. Sp. 1109.—This Bauhin synonym was not cited by Linné.

239. *Catapucia*, *Granum solis*, Springkorn, Springkraut, i, 230 (text); C.K. p. ccxlii. *Lathyrus major* C.B.P. 293. *Euphorbia Lathyrus* L. Sp. 457.

240. *Filix*, Waldfar, ed. 1540, iii, 127; C.K. p. ccv. *Polystichum* sp.—Cited by C. Bauhin (Pinax, 358) under his *Filix non ramosa dentata*, which is a synonym of *Dryopteris Filix-mas* (L. Sp. 1090) Schott. Mr. C. H. Wright suggests that it may possibly be *Polystichum aculeatum* (L.) Schott.

241. *Katzentreübel maennlin*, C.K. p. ccxxiii, fig. sinistra. *Sempervivum minus vermiculatum acre* C.B.P. 283. *Sedum acre* L. Sp. 432.—C. Bauhin apparently did not cite this figure of Brunfels.

242. *Sempervivum minus album* [C.B.P.], *Katzentreübel weiblin*, C.K. p. ccxxiii, fig. dextra. *Sedum minus teretifolium album* C.B.P. 283. *Sedum album* L. Sp. 432.

243. *Crocus*, Saffron, C.K. ii, p. xiv. *Colchicum autumnale* L.—vide nos. 176, 195.

244. *Sambucus*, Holder, iii, 181 (text); C.K. ii, p. xxx. *Sambucus nigra* L. Sp. 269.—The drawing shows a common abnormality of the Elder, namely, the confluence of a terminal leaflet with one of the uppermost pair.

245. *Allium*, Knoblauch, Knobloch, iii, 135 (text); C.K. ii, p. xxxii. *Allium sativum* L. Sp. 296.

246. *Lauch*, ed. 1540, iii, 136; C.K. ii, p. xxxiv, fig. dextra. *Allium ascalonicum* L. Amœn. Acad. iv, 454.

247. *Ziblen*, *Zybelen*, iii, 134 (text); ed. 1540, iii, 135 (reduced and reversed copy of the figure in C.K. ii); C.K. ii, p. xxxvi. *Allium cepa* L. Sp. 300.

248. *Sinapis*, Senff, iii, 140 (text); C.K. ii, p. xl.—Apparently a fictitious figure.

249. *Eruca*, Weisser Senff, iii, 140 (text); C.K. ii, p. xli. *Sinapis alba* L. Sp. 668.

250. *Napen*, C.K. ii, p. xlv.—The figure purports to represent *Brassica Napus* L., but seems to be *Daucus Carota*, L. Sp. 242.

251. *Rhaphanus agrestis*, *Armoracia*, Moerrettich, iii, 197 (text); C.K. ii p. xlvi, fig. sinistra. *Cochlearia Armoracia* L. Sp. 648.

252. *Oryza*, *Oriza*, Reisz (errore), iii, 210 (text); C.K. ii, p. lxii.—The figure purports to represent Rice, *Oryza sativa* L., but is actually Cress,

Lepidium sativum L. Sp. 644. The figure of Cress originally given (No. 134) was very poor, and the present one was doubtless intended to replace it.

253. *Cicer*, Zyszeren, iii, 217 (text); C.K. ii, p. lxvii. *Cicer arietinum* L. Sp. 738.

254. *Beta*, Roemischer Mangolt, iii, 145 (text); C.K. ii, p. lxxv. *Beta vulgaris* var. *Cicla* L. Sp. 222.

255. *Beta*, Roter Mangolt, iii, 145 (text); C.K. ii, p. lxxvi. *Beta vulgaris* var. *cruenta* Alef. Landwirthsch. Fl. 279.

256. *Vitis vinifera*, Weinreb, iii, 183 (text); C.K. ii, p. lxxxiv. *Vitis vinifera* L. Sp. 202.

257. *Ligustrum*, Harrtryegel, Hartryegel (errore), iii, 185 (text); C.K. ii, p. lxxxvii.—The figure purports to represent Privet, *Ligustrum vulgare* L., but is actually Dogwood, *Cornus sanguinea* L. Sp. 117.

258. *Prunus sylvestris*, Schlehen, iii, 186 (text); C.K. ii, p. lxxxviii. *Prunus spinosa* L. Sp. 475.

259. *Juniperus*, Wechholder, Wegkholder, iii, 182 (text); C.K. ii, p. lxxxviii. *Juniperus communis* L. Sp. 1040.

260. *Rubus*, Bromboeren, iii, 186 (text); C.K. ii, p. xc. *Rubus fruticosus* L. Sp. 493.

261. *Branca ursina*, Baerenklaw, Boerenkloe, iii, 149 (text); C.K. ii, p. xcii.—Unidentified. Possibly a fictitious figure. The Latin and German names are those of *Heracleum Sphondylium* L.

262. *Pyrethrum*, Bertram, iii, 158 (text); C.K. ii, p. xcvi. *Achillea Ptarmica* L. Sp. 898.

263. *Dictamus*, Diptam, Wylder Poley, iii, 158 (text); C.K. ii, p. xcvi. *Dictamnus albus* L. Sp. 383.

264. *Hyssopus*, Garten Hyssop, iii, 164 (text); C.K. ii, p. cviii, fig. sinistra.—The figure purports to be Hyssop, *Hyssopus officinalis* L., but is apparently Garden Thyme, *Thymus vulgaris* L., and is repeated under that species on the very next leaf.

265. *Hyssopus agrestis*, Wylder Hyssop, iii, 164 (text); C.K. ii, p. cviii, fig. dextra. *Hyssopus officinalis* L. Sp. 569.—I am indebted for this identification to Dr. Carl Epling. The only species to which the name Wilder Isop has been applied, according to Pritzel and Jessen, is *Satureia hortensis* L., which has a very different inflorescence.

266. *Thymus*, Thymian, iii, 162 (text); C.K. ii, p. cx. *Thymus vulgaris* L. Sp. 591.

267. *Abrotanum*, Stabwurtz, iii, 163 (text); C. K. ii, p. cxii. *Artemisia Abrotanum* L. Sp. 845.

268. *Gentiana*, *Genciana*, Encian (errore), iii, 161 (text); C.K. ii. p. cxiv.—The figure represents *Atropa Belladonna* L. Sp. 181, though the text relates to, *Gentiana lutea* L.

269. *Sion*, Bachbunn, C.K. ii, p. cxvi. *Veronica Beccabunga* L. Sp. 12—*vide* No. 202.

270. *Berberis*, *Spina acuta*, Saurach, Saurrauch, iii, 183 (text); C.K. ii. p. cxviii. *Berberis vulgaris* L. Sp. 330.

271. Wylde oder Welsche Bonen, C.K. ii, p. cxix.—Apparently a composite figure, consisting of *Silene vulgaris* (Moench) Garcke with a capitulum of *Cichorium Intybus* L. replacing one of the flowers—*vide* Nos. 185, 168.

272. *Angelica*, *Angelica*, iii, 66 (text); C.K. ii. p. cxx. *Angelica Archangelica* L. Sp. 250. *Archangelica officinalis* Hoffm.

273. *Sempervivum*, *Aizoum*, Hauswurtz, iii, 114 (text); C.K. ii, p. cxxxii. *Sempervivum tectorum* L. Sp. 464.

274. *Hippomarathrum*, Berwurtz, Beerwurtz, C.K. ii, p. cxxxvii. *Athamanta Meum* L. Sp. 245. *Meum athamanticum* Jacq.

275. Nept, C.K. ii, p. cxxxviii. The vernacular name Nept was applied in the 15th and 16th centuries to *Nepeta Cataria* L., and the figure might conceivably be intended to represent that species, though in that case, it is a wretched representation. Dr. Carl Epling suggests that it may be *Leonurus Marrubiastrum* L. Sp. 584.

276. *Pæonia*, *Peonia*, Peonien Rosen, Peonienbluom, ii, 13 (text); iii, 16 (text); C.K. ii, p. cxxxix. *Pæonia officinalis* L. Sp. 530.

277. *Lupulus*, Hopff, iii, 113 (text); C.K. ii, p. cxl. *Humulus Lupulus* L. Sp. 1028.

278. Weisse Nyeszwurtz, C.K. ii. p. cxlii.—Unidentified Composite. Possibly a fictitious figure.

279. Geysszblatt, C.K. ii, p. cxliv.—The name Geysszblatt applies to *Lonicera Periclymenum* L. and *L. Caprifolium* L. The figure appears to be a conventional design, in which only the twining habit and the single inflorescence at the top have been borrowed from *Lonicera*. The lower branches are reminiscent of the compound leaves of *Clematis*.

280. Wunderbaum, C.K. ii, p. cxlv. *Ricinus communis* L. Sp. 1007.

281. *Rosa*, Rosen, C.K. ii, p. cxlvi. *Rosa provincialis* Mill. Gard. Dict, ed. 8, no. 18 (1768).

282. *Rubea*, Roete, iii, 145 (text); C.K. ii, p. cxliii. *Carthamus tinctorius* L. Sp. 830.

283. *Malus*, Apfelbaum, iii, 222 (text); C.K. ii, p. cl. *Pyrus Malus* L. Sp. 479.

284. *Anisum*, Enisz, ed. 1540, iii, 105.—The figure purports to be Anise, *Pimpinella Anisum* L., but is actually a reduced and reversed copy of the figure of Fennel, *Fœniculum vulgare* Mill.—*vide* Nos. 97, 207.

285. *Sempervivum*, Hausszwurtz (errore), ed. 1540, iii, 114.—Unidentified Composite. Possibly a fictitious figure.

13. *Systematic Conspectus of Species figured.*

In order to give some idea of Brunfels's contributions to taxonomic botany, an attempt has been made to indicate which of his plants were known respectively to the ancient Greeks and Romans, and in the mediæval period, the remainder representing the plants first published by him. Many of the latter, however, were evidently well known to his contemporaries, though perhaps not previously figured or described. Of the 258 species (and varieties) in the following list, 78 were known to Theophrastus, 84 to Dioscorides, Columella, and other writers of the classical Roman period, and 49 in mediæval times, the remaining 47 being "new" in the sense that they do not seem to have been identified with any degree of certainty in previous works. Among the "new" species were such well-known plants as *Chenopodium Bonus-Henricus*, *Anemone nemorosa*, *A. Pulsatilla*, *Cardamine pratensis*, *Erophila verna*, *Isnardia palustris*, *Melampyrum arvense*, *Plantago media*, and *Carlina vulgaris*; and the "double" form of *Ranunculus acris* does not seem to have been previously recorded.

By the irony of fate some of the more important additions of Brunfels to the iconography of the European flora—e. g., *Anemone Pulsatilla*, *Cardamine pratensis*, and *Linaria vulgaris*—were included rather against his will, in order to keep the craftsmen employed, or to fill up space. The inclusion of *Isnardia palustris* was due to this species having been brought in to be drawn under the mistaken impression that it was Purslane (*Portulaca oleracea*).

Comparison of the following list with Sprengel's account of the taxonomic contributions of Fuchs shows that at least fifty species stated by him to have been first figured by Fuchs were previously figured by Brunfels; and the following nine species cited as having been first discovered in Germany by Tragus were also illustrated previously in Brunfels's works:—*Ruscus Hypoglossum*, *Lychnis Coronaria*, *Herniaria glabra*, *Cochlearia Armoracia*, *Dictamnus albus*, *Ægopodium Podagraria*, *Cornus sanguinea*, *Atropa Belladonna*, *Plantago lanceolata*.

The following abbreviations are employed to indicate the authors who previously recorded the various species :—

- A. Albertus Magnus, *fide* Meyer et Jessen (31).
- B. Apuleius Barbarus (Bodley MS.), *fide* Gunther (21).
- C. Columella, *fide* Sprengel (39).
- D. Dioscorides, *fide* Sprengel (39).
- J. Juvenal, *fide* Dyer (17).
- M. Mediæval Italian, *fide* Saccardo (37).
- N. Nicander, *fide* Sprengel (39).
- OS. Ortus Sanitatis (33).
- P. Pliny, *fide* Sprengel (39).
- R. Classical Roman, *fide* Saccardo (37).
- T. Theophrastus, *fide* Hort and Dyer (22)
- *. Not previously recorded.

HEPATICÆ : *Marchantia polymorpha* *.

MUSCI : *Polytrichum commune* *.

FILICALES : *Asplenium Ruta-muraria* (M ; OS, *Capillus veneris*) ; *Phyllitis Scolopendrium* (T) ; *Polypodium vulgare* (T).

EQUISETALES : *Equisetum limosum* (D).

GYMNOSPERMÆ : *Juniperus communis* (T).

ALISMACEÆ : *Alisma Plantago-aquatica* (D).

GRAMINEÆ : *Avena sativa* (T) ; *Hordeum vulgare* (T) ; *Panicum miliaceum* (T) ; *Secale cereale* (P) ; *Triticum hybernum** ; *T. Spelta* (R, 4th century A.D.).

ARACEÆ : *Arum maculatum* (A, vi, § 290 ; OS, *Aarona*) ; *Dracunculus vulgaris* (T).

LEMNACEÆ : *Lemna* sp. (OS, *Lenticula aquæ*).

LILIACEÆ : *Allium ascalonicum* (R) ; *A. Cæpa* (T) ; *A. Porrum* (T) ; *A. sativum* (T) ; *A. Scorodoprasum* (D) ; *A. ursinum** ; *Asparagus officinalis* (J) ; *Colchicum autumnale* (D) ; *Convallaria majalis* (OS, *Lilium convallium*) ; *Lilium candidum* (T) ; *L. croceum** ; *L. Martagon* (T) ; *Maianthemum bifolium* (P) ; *Polygonatum multiflorum** ; *Ruscus Hypoglossum* (T, D) ; *Scilla bifolia* (T).

AMARYLLIDACEÆ : *Leucojum vernum** ; *Narcissus Pseudo-Narcissus* (R).

IRIDACEÆ : *Iris germanica* (D) ; *I. Pseudacorus* (R).

ORCHIDACEÆ : *Gymnadenia conopsea** ; *Listera ovata** ; *Ophrys fuciflora** ; *Orchis militaris** ; *O. morio* (D) ; *O. purpurea** ; *Spiranthes spiralis* (D).

MORACEÆ : *Cannabis sativa* (C, D) ; *Humulus Lupulus* (P).

URTICACEÆ : *Parietaria officinalis* (D) ; *Urtica dioica* (D) ; *U. urens* (T).

ARISTOLOCHIACEÆ : *Aristolochia Clematitis* (D) ; *Asarum europæum* (D).

POLYGONACEÆ: *Polygonum Bistorta* (OS, Colubrina); *P. lapathifolium**; *P. Persicaria* (T); *Rumex Acetosa* (C, D); *R. obtusifolius* (D); *R. Patientia* (T).

CHENOPODIACEÆ: *Beta vulgaris* var. *Cicla* (C); *B. vulgaris* var. *cruenta* (B, t. iii; A, vi, § 292); *Chenopodium Bonus-Henricus**.

CARYOPHYLLACEÆ: *Agrostemma Githago* (D); *Dianthus carthusianorum**; *Herniaria glabra* (T); *Lychnis Coronaria* (T); *Silene vulgaris* (T); *Stellaria aquatica**; *S. media**.

NYMPHÆACEÆ: *Nuphar luteum* (T); *Nymphæa alba* (T).

RANUNCULACEÆ: *Anemone Hepatica* (M); *A. nemorosa**; *A. Pulsatilla**; *Delphinium Consolida* (OS, *Consolida regalis*); *Helleborus viridis* (M); *Pæonia officinalis* (D); *Ranunculus acris*, flore pleno* (sp. M); *R. bulbosus**; *R. Ficaria* (T); *R. nemorosus**.

BERBERIDACEÆ: *Berberis vulgaris* (P; OS, *Berberis*).

PAPAVERACEÆ: *Chelidonium majus* (T); *Corydalis cava* (OS, *Aristolgia*); *Fumaria officinalis* (R); *Papaver Rhœas* (T); *P. somniferum* (T).

CRUCIFERÆ: *Brassica campestris* var. *Rapa* (T); *B. Napus* (C); *B. oleracea* var. *capitata* (C); *Capsella Bursa-pastoris* (D); *Cardamine pratensis**; *Cheiranthus Cheiri* (T); *Cochlearia Armoracia* (C, D); *Erophila verna**; *Lepidium latifolium* (D); *L. ruderale**; *L. sativum* (T); *Matthiola incana* (T); *Raphanus sativus* (T); *Sinapis alba* (N, C); *S. arvensis* (D); *Sisymbrium officinale* (N); *S. Sophia**.

CRASSULACEÆ: *Sedum acre* (D); *S. album* (M); *S. Telephium* (A, vi, § 402); *Sempervivum tectorum* (T).

SAXIFRAGACEÆ: *Saxifraga granulata**.

ROSACEÆ: *Agrimonia Eupatoria* (D); *Alchemilla vulgaris* (M; OS, *Alchemilla*); *Fragaria vesca* (P); *Geum urbanum* (P; OS, *Garioffilata*); *Potentilla Anserina* (OS, *Protentilla*]; *P. erecta* (OS, *Tormentilla*); *P. recta* var. *obscura**; *P. reptans* (T); *Prunus spinosa* (R); *Pyrus Malus* (T); *Rosa provincialis* (P); *Rubus fruticosus* (D).

LEGUMINOSÆ: *Cicer arietinum* (T); *Cytisus scoparius**; *Glycyrrhiza glabra* (T); *Lens culinaris* (T); *Medicago lupulina**; *Melilotus officinalis* (D); *Pisum sativum* (T); *Trifolium pratense* (M); *T. repens* (M); *Vicia Faba* (T); *V. sativa* (C).

GERANIACEÆ: *Erodium cicutarium**; *Geranium pyrenaicum**.

OXALIDACEÆ: *Oxalis Acetosella* (OS, *Alleluia*).

LINACEÆ: *Linum usitatissimum* (T).

RUTACEÆ: *Dictamnus albus* (M; A, vi, § 327); *Ruta graveolens* (T).

EUPHORBIACEÆ: *Euphorbia Helioscopia* (D); *E. Lathyris* (D); *Ricinus communis* (T).

VITACEÆ: *Vitis vinifera* (T).

MALVACEÆ: *Althæa officinalis* (T); *Malva Alcea**; *M. rotundifolia* (R); *M. sylvestris* (T).

GUTTIFERÆ: *Hypericum perforatum* (D).

VIOLACEÆ: *Viola hirta**; *V. odorata* (T); *V. tricolor* (R).

ONAGRACEÆ: *Isnardia palustris**.

ARALIACEÆ: *Hedera Helix* (T).

UMBELLIFERÆ: *Ægopodium Podagraria**; *Apium graveolens* (T); *A. Petroselinum* (T); *Archangelica officinalis* (M); *Bupleurum rotundifolium* (R; OS, *Durchwachs*); *Coriandrum sativum* (T); *Daucus Carota* (T); *Fœniculum vulgare* (T); *Heracleum Sphondylium* (D); *Levisticum officinale* (C, D); *Meum athamanticum* (A, vi, § 272); *Peucedanum Ostruthium* (OS, *Astrens*); *Pimpinella Anisum* (T); *P. saxifraga* (R); *Sanicula europæa* (M; OS, *Diapensia*); *Sium Sisarum* (C).

CORNACEÆ: *Cornus sanguinea* (T).

PYROLACEÆ: *Pyrola rotundifolia* (OS, *Pirola*).

PRIMULACEÆ: *Anagallis arvensis* (D); *A. foemina* (T); *Primula elatior**; *P. veris* (OS, *Herba paralis*).

GENTIANACEÆ: *Centaurium umbellatum* (T); *Gentiana Cruciata**.

APOCYNACEÆ: *Vinca minor* (D).

ASCLEPIADACEÆ: *Vincetoxicum officinale* (D).

CONVOLVULACEÆ: *Calystegia sepium* (T).

BORAGINACEÆ: *Anchusa officinalis* (M; OS, *Buglossa*); *Borago officinalis* (M; OS, *Borago*); *Cynoglossum officinale* (D); *Echium vulgare* (M); *Myosotis palustris**; *Symphytum officinale* (D).

VERBENACEÆ: *Verbena officinalis* (D).

LABIATÆ: *Ajuga genevensis**; *Glechoma hederacea* (M; OS, *Edera terrestris*); *Hyssopus officinalis* (D); *Lamium album* (D); *L. maculatum* (P); *Leonurus Cardiacæ* (M; OS, *Cardiacæ*); *L. Marrubiastrum* (D); *Marrubium vulgare* (C, D); *Melissa officinalis* (T); *Mentha Pulegium* (T); *Ocimum Basilicum* (T); *Origanum Majorana* (T); *O. vulgare* (C); *Rosmarinus officinalis* (C, D); *Salvia officinalis* (N); *S. pratensis* (M); *Stachys officinalis* (A, vi, § 289; OS, *Betonica*); *Thymus Serpyllum* (C, D); *T. vulgaris* (C).

SOLANACEÆ: *Atropa Belladonna* (T); *Hyoscyamus niger* (R); *Physalis Alkekengi* (D); *Solanum nigrum* (T).

SCROPHULARIACEÆ: *Euphrasia officinalis* (OS, *Eufragia*); *Linaria vulgaris* (A, vi, § 336; OS, *Linaria*); *Melampyrum arvense**; *Scrophularia nodosa* (M); *Verbascum Thapsus* (D); *Veronica Beccabunga* (M); *V. Chamædrys* (OS, *Gamandria*); *V. serpyllifolia**; *V. Teucrium**.

PLANTAGINACEÆ: *Plantago lanceolata* (T); *P. major* (T); *P. media**.

RUBIACEÆ: *Asperula odorata* (B, t. xviii).

CAPRIFOLIACEÆ: *Sambucus nigra* (T); *S. Ebulus* (C, D).

VALERIANACEÆ: *Valeriana officinalis* (OS, *Valeriana*).

DIPSACACEÆ: *Dipsacus sylvestris* (R); *Scabiosa columbaria**; *Succisa pratensis* (OS, *Morsus diaboli*).

CUCURBITACEÆ: *Lagenaria vulgaris* (T).

CAMPANULACEÆ: Campanula Rapunculus (M).

COMPOSITÆ: Achillea Millefolium (M ; OS, Millefolium) ; A. Ptarmica (D ; OS, Piritrum) ; Anthemis Cotula (M ; A, vi, § 294) ; Arctium minus (M) ; Artemisia Abrotanum (D) ; A. Absinthium (T) ; A. vulgaris (M ; B, t. lxxv ; OS, Arthemisia) ; Bellis perennis (P) ; Calendula officinalis (C, P) ; Carlina vulgaris* ; Carthamus tinctorius (T) ; Centaurea Calci-trapa (T) ; C. Cyanus R ; Chrysanthemum Leucanthemum* ; C. Parthe-nium (T) ; Cichorium Intybus (T) ; Cirsium acaule (M) ; Hieracium Pilo-sella (OS, Auricula muris) ; Inula Helenium (T) ; Lactuca virosa (R) ; Matricaria Chamomilla (T) ; Onopordon Acanthium (D) ; Senecio Jacobæa (M) ; S. vulgaris (T) ; Silybum Marianum (T) ; Tanacetum vulgare (M ; OS, Tanacetum) ; Taraxacum officinale (T) ; Tragopogon porrifolius (T) ; Tussilago Farfara (D) ; Xanthium strumarium (D).

14. *Index of Accepted Scientific Names of the Plants figured.*

Achillea Millefolium, 204, 205 ; A. Ptarmica, 262 ; Ægopodium Podagraria, 200 ; Agri-monia Eupatoria, 160 ; Agrostemma Githago, 85 ; Ajuga genevensis, 24 ; Alchemilla vulgaris, 116 ; Alisma Plantago-aquatica, 3 ; Allium ascalonicum, 246 ; A. Ceba, 247 ; A. Porrum, 188 ; A. sativum, 245 ; A. Scorodoprasum, 187 ; A. ursinum, 189 ; Althea officinalis, 186 ; Anagallis arvensis, 83 ; A. foemina, 84 ; Anchusa officinalis, 35 ; Anemone Hepatica, 68 ; A. nemorosa, 136 ; A. Pulsatilla, 76 ; Anthemis Cotula, 88 ; Anthriscus Cerefolium, 192 ; Apium graveolens, 174 ; A. Petroselinum, 181 ; Archangelica officinalis, 272 ; Arctium minus, 123 ; Aristolochia Clematitis, 11 ; Artemisia Abrotanum, 267 ; A. Absinthium, 193 ; A. vulgaris, 139 ; Arum maculatum, 12 ; Asarum europæum, 17 ; Asparagus officinalis, 208 ; Asperula odorata, 94 ; Asplenium Ruta-muraria, 78 ; Atriplex sp., 137 ; Atropa Belladonna, 268 ; Avena sativa, 219.

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Calendula officinalis, 89 ; Calystegia sepium, 166 ; Campanula Rapunculus, 138 ; Cannabis sativa, 209 ; Capsella Bursa-pastoris, 145 ; Cardamine pratensis, 77 ; Carlina vulgaris, 125 ; Carthamus tinctorius, 196, 282 ; Centaurea Calcitrapa, 157 ; C. Cyanus, 201 ; Centaurium umbellatum, 183 ; Cheiranthus Cheiri, 43 ; Chelidonium majus, 82 ; Chenopodium Bonus-Henricus, 15 ; Chrysanthemum Leucanthemum, 90 ; C. Parthenium, 86 ; Cicer arietinum 253 ; Cichorium Intybus, 168, 271 ; Cirsium acaule, 112 ; Cochlearia Armoracia, 251 ; Colchicum autumnale, 176, 195, 243 ; Convallaria majalis, 72 ; Coriandrum sativum, 70 ; Cornus sanguinea, 257 ; Corydalis cava, 9, 10 ; Cynoglossum officinale, 60 ; Cytisus sco-parius, 197.

Daucus Carota, 250 ; Delphinium Consolida, 21 ; Dianthus carthusianorum, 121 ; Dic-tamnus albus, 263 ; Dipsacus sylvestris, 126 ; Dracunculus vulgaris, 16.

Echium vulgare, 34 ; Equisetum limosum, 194 ; Erodium cicutarium, 108 ; Erophila verna, 105 ; Euphorbia Helioscopia, 235 ; E. Lathyris, 239 ; Euphrasia officinalis, 58.

Foeniculum vulgare, 97, 207, 284 ; Fragaria vesca, 107 ; Fumaria officinalis, 27.

Gentiana Cruciata, 115 ; Geranium pyrenaicum, 231 ; Geum urbanum, 111 ; Glechoma hederacea, 56 ; Glycyrrhiza glabra, 182 ; Gymnadenia conopsea, 33.

Hedera Helix, 92, 93; *Helleborus viridis*, 5; *Heracleum Sphondylium*, 206; *Herniaria glabra*, 236; *Hieracium Pilosella*, 179; *Hordeum vulgare*, 221; *Humulus Lupulus*, 277; *Hyoscyamus niger*, 79; *Hypericum perforatum*, 163; *Hyssopus officinalis*, 265.

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Lactuca virosa, 148; *Lagenaria vulgaris*, 211; *Lamium album*, 51; *L. maculatum*, 52; *Lemna* sp., 178; *Lens culinaris*, 224; *Leonurus Cardiaca*, 54; *L. Marrubiastrum*, 275; *Lepidium latifolium*, 180; *L. ruderale*, 146; *L. sativum*, 134, 252; *Leucojum vernum*, 42; *Levisticum officinale*, 177; *Lilium candidum*, 229; *L. croceum*, 150; *L. Martagon*, 149; *Linaria vulgaris*, 109; *Linum usitatissimum*, 59; *Listera ovata*, 63, 65; *Lonicera* sp., 279; *Lychnis Coronaria*, 228.

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Narcissus Pseudo-Narcissus, 41; *Nepeta Cataria*, 275; *Nuphar luteum*, 6; *Nymphæa alba*, 7.

Ocimum Basilicum, 71; *Onopordon Acanthium*, 172; *Ophrys fuciflora*, 31; *Orchis militaris*, 29; *O. morio*, 30; *O. purpurea*, 28; *Origanum vulgare*, 199; *Oxalis Acetosella*, 153.

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Ranunculus acris, flore pleno, 48; *R. bulbosus*, 49; *R. Ficaria*, 75; *R. nemorosus*, 47; *Raphanus sativus*, 214; *Ricinus communis*, 280; *Rosa provincialis*, 281; *Rosmarinus officinalis*, 122; *Rubus fruticosus*, 260; *Rumex Acetosa*, 128; *R. obtusifolius*, 164; *R. Patientia*, 198; *Ruscus Hypoglossum*, 169; *Ruta graveolens*, 162.

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BIBLIOGRAPHY.

1. APULEIUS PLATONICUS [Apuleius Barbarus]. Herbarium (1480).
2. ARBER, AGNES. Herbs, their Origin and Evolution, 47-50, 168-175 (1912).
3. ——. The Draughtsman of the 'Herbarum Vivæ Eicones.' Journ. Bot. 1921, 131-132.
4. BAUHIN, CASPAR. Pinax Theatri Botanici (1623).
5. BRUNFELS, OTHO. Herbarum Vivæ Eicones (1530); ed. 2 (1532); ed. 3 (1539), *vide* Herbarium Oth. Brunfelsii (8).
6. ——. Novi Herbarii, Tomus II (1531); ed. 2 (1536).
7. ——. Tomus Herbarii Othonis Brunfelsii, III (1536); ed. 2 (1540).
8. ——. Herbarium Oth. Brunfelsii tomis tribus. Vol. i (1539); vol. ii, 'Novi Herbarii, Tomus II' (1536); vol. iii, 'Tomus Herbarii Othonis Brunfelsii, III' (1536 et 1540).
9. ——. Contrafayt Kreüterbuoch (1532).
10. ——. Kreüterbuoch Contrafayt (1534).
11. ——. Contrafayt Kreüterbuoch, Ander Teyl (1537).
12. CHRIST, H. Otto Brunfels und seine Herbarum Vivæ Eicones. Verh. Naturf. Ges. Basel, xxxviii, 1-11 (1927).
13. CHURCH, A. H. Brunfels and Fuchs. Journ. Bot. 1919, 233-244.
14. CORDUS, EURICIUS. Botanologicon (1534).
15. DÖLL, J. CH. Flora des Grossherzogthums Baden (1857-62).
16. DYER, Sir W. T. THISELTON-. A Companion to Greek Studies, ed. Whibley, 52-68: Flora (Cambridge University Press, 1916).
17. ——. A Companion to Latin Studies, ed. Sandys, 66-89: Flora (Cambridge University Press, 1921).
18. FUCHS, LEONHARD. De Historia Stirpium Commentarii Insignes (1542). The Introductory Letter contains an appreciation of Brunfels.
19. GREEN, M. L. History of Plant Nomenclature. Kew Bull. 1927, 403-415.
20. GREENE, E. L. Landmarks of Botanical History, Part I, 169-191. Smithsonian Misc. Coll. vol. 54 (1909).
21. GUNTHER, R. T. The Herbal of Apuleius Barbarus (1925).
22. HORT, Sir A. Theophrastus, Enquiry into Plants (1916).
23. HORTUS SANITATIS, Deutsch. Peter Schöffer, Mainz, 1485 (Facsimile, München, 1924). Contains as an appendix, W. L. Schreiber, Die Kräuterbücher des XV und XVI Jahrhunderts.

24. HUMELBERG, G. *Ant. Musæ de Herba Vetonica, liber I; L. Apulei de Medicaminibus Herbarum, liber I* (1537).
25. KIRSCHLEGER, FRÉD. *Flore d'Alsace et des Contrées limitrophes* (1852-62). Vol. ii, pp. xiii-xvii contains an account of Brunfels, and a list of 106 identifications of plants figured in vols. i and ii of his herbal.
26. LINDERN, F. B. VON. *Tournefortius Alsaticus* (1728).
27. ——. *Hortus Alsaticus* (1747).
28. LINNÉ, C. VON. *Species Plantarum*, ed. i (1753).
29. MAIWALD, V. *Geschichte der Botanik in Böhmen* (1904).
30. MEYER, ERNST H. F. *Geschichte der Botanik*, iv, 295-303 (1857).
31. MEYER, ERNST, and JESSEN, C. *Alberti Magni de Vegetabilibus, Libri VII* (1867).
32. MORETTI, GIUSEPPE. *Difesa e illustrazione della opere botaniche di Pietro Andrea Mattioli* (*Giorn. Ist. Lomb.* 397-407, 1852). Contains a bibliography of Brunfels and a list of identifications of his plants.
33. ORTUS SANITATIS. Ed. germ. Mainz (1485).
34. PRITZEL, G., and JESSEN, C. *Die deutschen Volksnamen der Pflanzen* (1882).
35. RICHTER, H. E. F. *Codex botanicus Linnæanus* (1840).
36. ROTH, F. W. E. *Otto Brunfels, 1489-1534. Ein deutscher Botaniker.* *Bot. Zeit.* 1900, lviii, 191-232.
37. SACCARDO, P. A. *Cronologia della Flora Italiana* (1909).
38. SPRENGEL, KURT. *Historia Rei Herbariæ*, i, 311-315 (1808).
39. ——. *Geschichte der Botanik*, i, 258-262 (1817).
40. TREVIRANUS, L. C. *Ueber Pflanzenabbildungen durch den Holzschnitt.* *Denkschr. Bot. Ges. Regensburg*, iii, 31-42, 1841. Pp. 35-36 refer to Brunfels.
41. ——. *Die Anwendung des Holzschnittes zur bildlichen Darstellung von Pflanzen* (1855). Pp. 9-11 relate to Brunfels.
42. WITTROCK, V. B. *Portrait and Biographical Details of Brunfels in 'Catalogus Illustratus Iconothecæ Botanicae Horti Bergiani Stockholmiensis.'* *Act. Hort. Berg.* iii, No. 3, 121, t. 6, 1905.

Addenda (June 1928).

- FLUCKIGER, F. A. *Otto Brunfels.* *Archiv der Pharmacie*, cexii, 493-514 (1878).
 HALLER, A. VON. *Bibliotheca botanica*, 262-263 (1771).
 LINNÉ, C. VON. *Bibliotheca botanica*, 31 (1751).
 MIALI, L. C. *The Early Naturalists*, 17-19 (1912).
-